FIFTY CENTS

New FDM Feature:

Furniture Engineering

NOVEMBER 1959

Success Formula of Basic-Witz

Curled Hair Cushioning

Speed Air Drying of Hardwoods

FURNITURE Design & Manufacturing

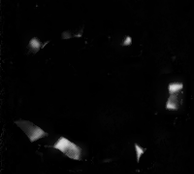
DO ACRYLIC FIBERS MAKE BETTER UPHOLSTERY FABRICS?

SPECIAL-PURPOSE FURNITURE FASTENERS

and self-fastening devices

The fasteners and other devices shown here are designed for two principal purposes ... to speed in-plant assembly operations ... or to make possible K-D shipment of furniture for assembly by unskilled store personnel or by the ultimate purchaser. United-Carr has pioneered in the field of fasteners specially designed for furniture production and, if you have a volume production problem that requires fasteners of a new or special design, United-Carr's engineering staff is at your service.

LEG LOCK

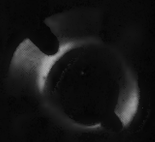


Allows accurate alignment of square legs on K-D furniture for the first time. Prongs dig into both leg and table top or chair seat, lock securely yet permit adjustment during locking action. Write for details and samples.

LOW COST FERRULE GLIDE

Designed for tubular furniture. Steel shell is plated with gloss-finish brass. Durable plastic base swivels, tilts, glides smoothly. Attachment is by spring steel clip.

HELIX WASHERS



Provide positive anchorage for bolt or threaded rod in metal tubing ... push in easily ... can be removed only with substantial force ... ideal for attaching handles or other tubular components ... available to fit wide range of thread and tubing sizes.

CAPPED RATCHET PLATES

Decorative hub caps for furniture and wheel goods .... eliminate nuts and cotter pins. Available in range of sizes, light or heavy action for push-on or hammered assembly ... aluminum or nickel-plated caps. Can be embossed with special designs.

PLUG BUTTON GLIDE

Snaps into tube ends as decorative closure or trim piece ... can also be used as ultra-low-cost glide. Chrome-plated steel ensures durability. Spring steel fingers ensure secure attachment.

SUPER SILENT SWIVEL GLIDE

Floats on rubber, slides on steel base, completely insulated from chair or table by rubber cushion. Teeth hold glide in tubular metal legs. Swivel base allows glide to stand flat even though legs slope. Also available without swivel feature.

SUPER SILENT SWIVEL GLIDE

Same construction as round-based glide at left but conical configuration harmonizes better with some modern furniture styles and is ideal for use on school furniture.

LONG PRONG TEENUT

Has curved prongs that provide twisting action for extra holding power as Teenut is driven into bored hole. Components can be repeatedly assembled and disassembled ... provides steel threads in wood ... permits K-D shipment.

SHORT PRONG TEENUT

Can be held in place with brads until final attachment of components by dealer or purchaser. Short prongs prevent turning when hanger bolt is tightened. More than 600 different Teenut designs available to suit your particular requirements.

PETAL NUT

Low cost blind fastener for wood furniture. Easily driven into ⅜" x ⅜" hole with hammer and simple driving tool. ¼, 20 size withstands 1400 lbs. direct pull in face grain oak.

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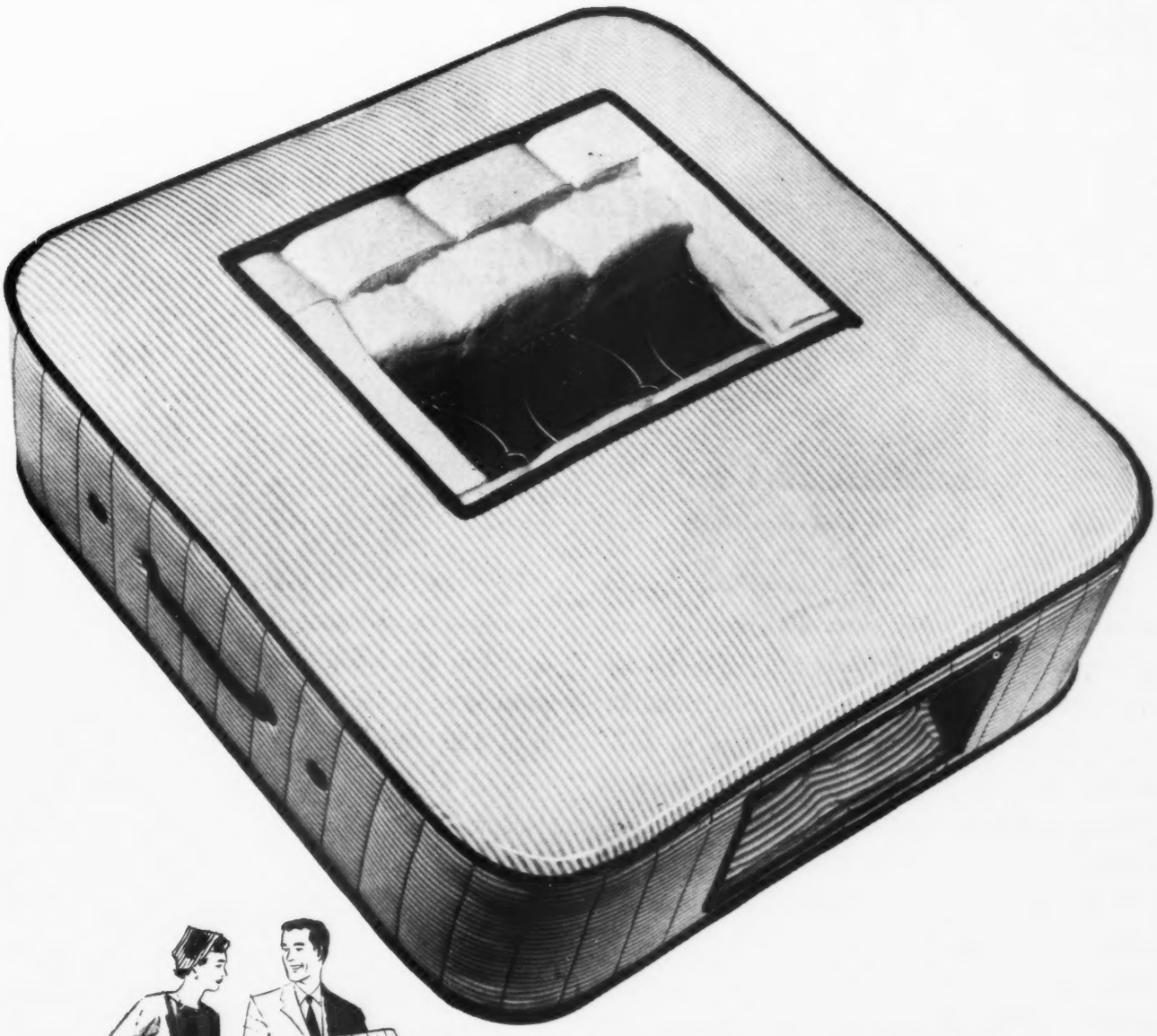
CARR FASTENER COMPANY

Division of UNITED-CARR Fastener Corp., Cambridge 42, Mass.

In Canada · Gage Avenue and Beach Road, Hamilton, Ontario



9 out of 10 people buy Cotton cushioned mattresses

Most successful manufacturers supply a product that's in demand.

Sometimes there's a question about just what is in demand. Not in mattresses, though.

The huge preference for cotton-cushioned mattresses, as proven by industry-wide sales reports to the Bureau of Census, is a matter of record.

The public knows that cotton-cushioned mattresses give real sleeping comfort and years of use. Retailers know cotton-cushioned mattresses keep sales volume and profits high.

And you know it, too. You've been making cotton-cushioned mattresses, and selling them, for years. Probably sleep on one yourself.

The public knows what it wants, and you give it to them.

There's no better way to do business.

NATIONAL COTTON BATTING INSTITUTE AND NATIONAL COTTON COUNCIL, MEMPHIS, TENN.

Editorial

Thank you for your votes

As a result of the first nine issues this year of FURNITURE DESIGN & MANUFACTURING, we have been privileged to service 5,156 reader requests for further information as a direct result of editorial matter appearing in this magazine. In addition, we have assisted other readers in solving problems, including locating equipment, supplies, materials and services vital to the manufacture of furniture of all kinds.

Perhaps you are one of those we have had the pleasure of serving.

We regard these responses from you, our readers, as votes of approval . . . assurances that we are publishing information you can use. They indicate to us you want and need a magazine which serves the furniture manufacturing industry *first* and in *all* its facets, including case goods, metal, upholstery and bedding. They tell us you want a magazine that is written with brevity and presented in an attractive, easy-to-read format.

Your votes tell us you want a *quality* magazine . . . one that fairly sparkles with fineness . . . one that you are proud to have on your desk.

Your careful selection in responding to editorial information tells us what is useful to you and what kinds of articles we should publish.

Your votes, as well as your letters and personal comments to our editorial and business staffs, has caused us to create a new section, FURNITURE ENGINEERING, which appears in this and every issue hereafter. This fact-packed technical section is specifically designed for all echelons of management concerned with production, engineering, planning, research, costs and related functions.

This new department will be further expanded in coming months. It will contain vital information from many authoritative sources. Again, we ask for your suggestions. What kind of articles and on what subjects will be most useful to you?

But this is not all. Other important phases of the furniture manufacturing industry will be covered with greater thoroughness . . . management matters, marketing, design, purchasing. Your votes and suggestions have told us you want them.

The furniture manufacturing industry deserves *its own publication*, dedicated to serve it *first* . . . with dignity, integrity and inspiration. It is the solemn purpose of FURNITURE DESIGN & MANUFACTURING to occupy that position. Your suggestions and responses help make it so.

R. A. Helmers, Editor

FURNITURE Design & Manufacturing

VOLUME 31 NUMBER 11 NOVEMBER 1959

Top Management Publication Serving the Furniture Manufacturing, Upholstering and Bedding Industries.

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OUR COLOR COVER: Upholstery fabrics that are compatible with children and pets are now possible, thanks to Acrilan, Chemstrand's trademarked acrylic fiber. Fabric shown is by Holyoke Fabrics, Inc.; furniture by Valley Upholstery Corp. Illustration courtesy The Chemstrand Corp. *Article page 21.*

INSET: Waste control is discussed in one of the articles appearing in the new Furniture Engineering Section, *page 28.*

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Contents

EDITORIAL 4

FURNITURE DIGEST FOR MANAGEMENT
Noteworthy and newsworthy capsules for profit 6

BEDDING MANUFACTURERS TO HOLD CONVENTION AND SUPPLIES MARKET
Advance report on program of National Association of Bedding Manufacturers 11

THE BASIC-WITZ FORMULA FOR SUCCESS
Alert management builds manufacturing concern to position of industry leadership—by CAROLYN KNUEMANN 12

DO NOT OVERLOOK THE ADVANTAGES OF CURLED HAIR CUSHIONING
One of man's oldest cushioning materials is available today in many improved forms—by LEONARD S. SIMON 14

ACRYLIC FIBERS PROMISE BETTER FABRIC PERFORMANCE
Why more furniture manufacturers are using covers woven of Acrilan fibers.. 21

IT'S NEW: FROM YOUR SUPPLIERS
New products, ideas and services designed for your profit 22

HE BELIEVES IN THE HUMBLE APPROACH TO DESIGN
Design theories of Norman F. MacGregor 36

FUTURE DATES FOR MANAGERS 42

NEW FDM FEATURE: A technical section for managers, department heads and technicians responsible for production, planning, cost analysis and research. *See page 27.*

HOW WE CONTROL WASTE OF LUMBER AND VENEER
Cost cutting tips—by R. L. WHITENER 28

NEW WAY TO SPEED AIR DRYING OF HARDWOODS
Fan system reduces air drying time from ninety to seven days, lowers degrade—by R. A. HELMERS, Editor 30

WOOD TECH; BENT WOOD FOR FURNITURE PARTS
Regular monthly feature—by CARL A. RISHELL 32

AUTOMATIC ASSEMBLY GLUING SPEEDS PRODUCTION
One-man operated gluing department developed by equipment maker 34

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FURNITURE Digest for Management

For more complete information on any of the Bulletins below, just circle the Bulletin Numbers on the READER SERVICE CARD which you will find elsewhere in this issue. A copy of the source material will be sent to you promptly.

Management Notes

BUYING PATTERNS SURVEY made by *Modern Bride* reveals that brides-to-be purchase particular products at specific times prior to and immediately after marriage. The study shows that at the time a girl marries she has already purchased many of the basic and important new products for her home, such as a new complete bedroom suite which 42% of brides-to-be purchased two to three months before marriage. *Bulletin N-93.*

1959 DESIGN IN HARDWOODS AWARDS will be presented to winners submitting the best design entries in five major classifications for hardwood products or architectural installations. The awards selection is sponsored by *Hardwood Exhibits Inc.* and winning entries will be exhibited at the permanent Hardwoods Exhibit at the Chicago Museum of Science and Industry. Entries for the contest close December 1, 1959, and winners will be announced in February at a special awards banquet during the Fine Hardwoods Association's annual convention. *Bulletin N-94.*

NEW DUSTING FABRIC, "Scotch" brand No. 550, a non-woven, scratch-free fabric designed to pick up and hold dust, is offered by *Minnesota Mining and Mfg. Co.* The material is said to collect dust from even the most detailed precision instruments and provide a porous protective cover over objects which require ventilation while storing. The rayon type material can be used several times without losing effectiveness, is not oily or sticky and has no silicones or corrosive chemicals which could remain as film residue on dusted surfaces. The fabric is available in rolls 12 in. wide and 30 yds. long which provide 60 individual dusters. *Bulletin N-95.*

FIBER FACTS, a compact 50-page manual, is available from the American Viscose Corp. The booklet contains such useful information as packaging data, spinning twist calculator, warp and filling yarn requirements, a denier conversion table and physical properties of man made fibers. A handy glossary of textile terms is included as well as a table of measures and weights based on National Bureau of Standards. For a copy circle *Bulletin N-96.*

PRODUCTION WOODWORKING CLINIC for furniture manufacturers conducted by *Onsrud Machine Works, Inc.*, and *Garrison Machinery Co.* will be held at Statesville, North Carolina, December 10, 11 and 12. The clinic subject matter will concern woodworking and will offer a detailed presentation of the latest furniture parts production methods. Onsrud machines introduced during the past year and planned for 1960 will be in operation at the clinic and will be applied to production parts and operations typical of those found in furniture manufacturing. Technical information relative to machine design and application will be offered in films and lectures. The clinic is planned so that a complete presentation can be made in one day. *Bulletin N-97.*

CUSTOMER COMPLAINTS in the furniture and floor coverings business was second on a list of ten trade groups which cause the most frequent public complaints in a survey made by the *Better Business Bureau of Pittsburgh.* In 464 complaints received, 25.2% of customers in this field indicated defective merchandise as their cause for complaint while 20% cited promised adjustment not fulfilled. Six major causes of customer dissatisfaction accounted for 81.4% of the total in the 1959 period, as contrasted with 70.1% a year ago. *Bulletin N-98.*

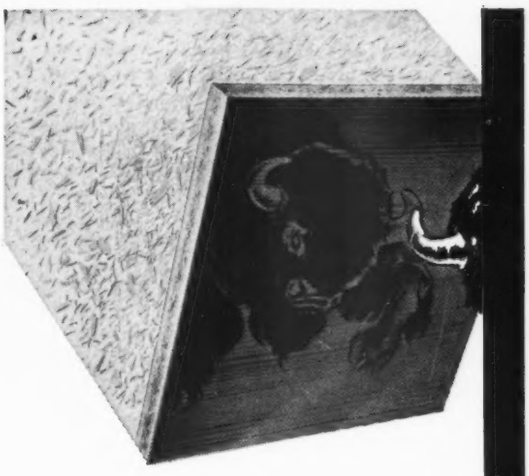
SALES MANAGEMENT CONFERENCE, sponsored by the *National Association of Furniture Manufacturers,* will be held November 11-13 at Indiana University, Bloomington, Ind. The fourth annual conference will use case histories depicting actual problems plaguing sales executives in the furniture industry and the solving of them through open discussion. *Dr. Albert Haring,* professor of marketing at the Indiana School of Business, will speak on "Unexplored Profit Potentials." The conference will also feature *John W. Mock* of Protectoseal Co. speaking on "How to Conduct a Sales Meeting." *Bulletin N-99.*

MATTRESS AND BEDSPRING SHIPMENTS ROSE in May and June of this year according to a report of the *U. S. Department of Commerce.* Total shipments of mattresses and bedsprings rose to $33.9 million in May and $37.2 million in June, the latter being the highest level reported this year. In June the middle Atlantic division, for the first time this year, accounted for the largest total dollar value of shipments of any geographic division. *Bulletin N-100.*

NEW MARKET FOR FURNITURE may be opened by *National Homes Corp.* according to *Housing Trends* published by *Living For Young Homemakers.* The bulletin states National is pushing the sale of a complete package for furniture for use by builders in model home sales promotions. The furnishings and decorating package is put together by *L. S. Ayres & Co.*, Indianapolis, at a cost of $1,900. The bulletin also reveals that young wage-earners in annual income brackets of $7,500 and over now account for nearly 30 percent of all families and 55 percent of the nation's purchasing power. *Bulletin N-101.*

ECONOMY GRADE STAINLESS STEEL TUBE is now available from *Chase Brass & Copper Co.* The high-frequency induction welded tube which has application in the manufacture of furniture is fabricated from type 302 stainless and is available in round, square and rectangular shapes. Special sizes, gauges, finishes and packaging can be supplied. *Bulletin N-102.*

MAHOGANY AWARDS, in the form of an embossed metal plaque, symbolizing the highest degree of excellence in both craftsmanship and design will be granted each



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- **Lowest installation and production costs per daily ton**
- **Exclusive single opening press installation and versatile multiple-press installation**

*A multiple-press 110,000 bft mill is now being installed at Albany, Oregon, and a single-opening press in New Brunswick.

World-famous Bison Board offers many exclusive features worth your investigation — superior finishing and machining qualities inherent in its "graduated three layer" structure; lower finished product cost through savings in raw materials, as this is the only system that can produce a high quality board with 3500 M.O.R. when using 75% shavings.

Also investigate the exclusive glue mixing machine, lowering high cost for resins in making boards of high strength and screw-holding properties.

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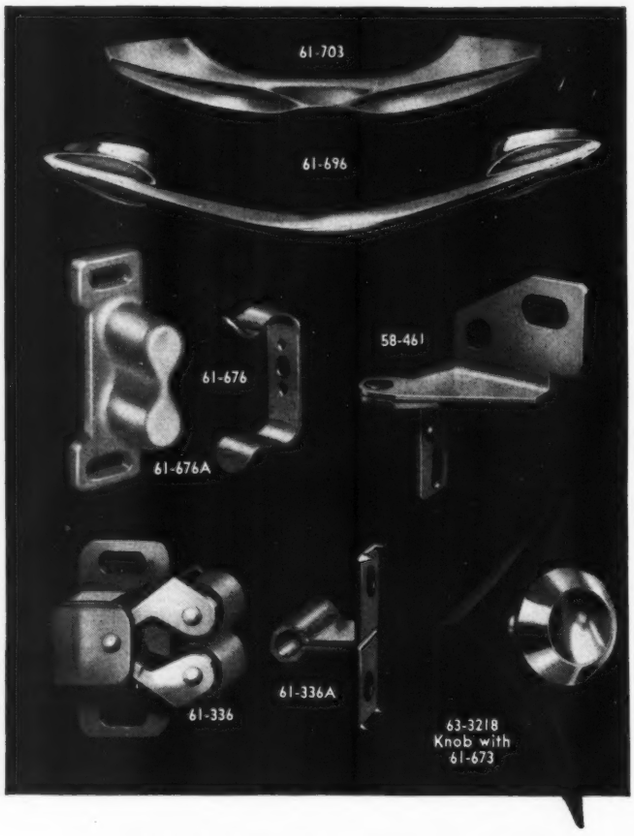

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ROCKFORD, ILLINOIS

FURNITURE Digest for Management

For copies of Bulletins, circle appropriate Reader Service Number.

January, beginning in 1960, to first-prize winners in seven categories. The categories are: correlated group of furniture for more than one room in the house; bedroom furniture group; dining room group; one or a group of tables; occasional piece or group; radio, high-fidelity or television unit; and piano or organ. The awards will be presented by *The Mahogany Association* at a banquet in Chicago on January 4, opening day of the International Home Furnishings Market. *Bulletin N-103*

DAVISON-PEARSALL, INC., Asheville, N.C., a newly formed company for the manufacture of Early-American furniture, expects to be in full production the end of the year. *Jed Davison,* formerly with the *Morgan Mfg. Co.,* is president; *Adrian Pearsall,* vice president, and *Richard Pearsall* is secretary-treasurer. The Pearsalls also manufacture an upholstered contemporary line as *Craft Associates.*

CHICAGO FURNITURE MANUFACTURERS ASSN. re-elected *Willard A. Gullicksen,* Churchill Cabinet Co., as president. Other officers re-elected were *Walter Lethander,* Leonard Peterson & Co., vice president; *Percy A. Tonk,* Tonk Manufacturing Co., treasurer, and *E. C. Snyder,* Chicago Furniture Forwarding Co., secretary.

NATIONAL HARDWOOD LUMBER ASSN. re-elected *Bernard Bock* as president during the 62nd annual meeting of the organization held in Montreal. Vice presidents elected were: *Mark Townsend,* Stuttgart, Ark.; *J. P. Hamer,* Kenova, W. Va., and *Donald F. White,* Oakland, Calif. *Franklin T. Griffin,* Chicago, former vice president, was named honorary director and *M. B. Pendleton,* secretary-manager of the association, was reappointed for the ensuing year.

TROY SUNSHADE CO., Troy, Ohio, manufacturers of summer, casual and contract furniture, named *Judson F. Chase,* formerly with Dayton Rubber Co., as advertising manager.

UNAGUSTA MFG. CORP., Hazelwood, N.C. announced *Lewis W. Bost,* formerly with *Drexel, Morganton, Hy-Lan* and *Von Cannon,* as assistant to the president. *Herbert M. Jaeger,* formerly with *Drexel* and *Kittinger Co.* was named merchandise manager serving the Unagusta-Cherokee-Waynewood sales organizations.

THE SIMMONS CO., manufacturing of bedding and furniture, opened display rooms in the Dallas Trade Mart, Dallas, Texas. *H. A. Rogers* is southwestern district manager.

Supplier Service & Personnel Changes

GREENLEE TOOL CO., Rockford, Ill., appointed *Martin J. Tuckett* as general sales manager. He formerly directed merchandising and sales promotion activities in the firm's hardware and industrial fields. *Delbert Wilson* was named assistant sales manager.

NATIONAL STARCH AND CHEMICAL CORP., New York, announced the purchase of the stock of *American Parboard Corporation,* Black Mountain, N.C. Both firms are producers in the wood particle board field. American Parboard will operate as a subsidiary of National Starch and Chemical. *Harold R. Tipton,* president of American Parboard will continue on the staff and serve as a director.

NO-SAG SPRING CO., manufacturers of springs and accessories, has moved its main offices to 124 W. State Fair Ave., Detroit, Mich.

BLOCKSOM & CO., Michigan City, Ind., manufacturers of rubberized curled hair appointed *House of Heynes,* 2800 Frenchman Ave., New Orleans, La. as distributor. *Ronald Heynes* is president. *Phil L. Steiner* was named eastern divisional manager with headquarters in Newark, N.J. and *Irving Sigman* was named representative in New York City and northern New Jersey.

F. BURKART MFG. CO., St. Louis, Mo., a division of *Textron Inc.,* appointed *Donald Gordon,* formerly with *Nu-Kraft Co.,* as sales representative in Ohio and W. Va.

PIR-O-WOOD WOOD PRODUCTS, INC. established a new plant for the production of glued up dimension hardwoods in Weatherly, Pa. The plant has facilities for machining and for production of drawer sides, fronts and backs.

FALLS ENGINEERING & MACHINE CO., Cuyahoga Falls, Ohio, manufacturers of special machinery, appointed *Frank H. Manley, Jr.,* Pasadena, Calif. as western area sales-service representative serving California, Oregon, Washington, Idaho, Montana, Wyoming, New Mexico, Arizona and Nevada.

FAULTLESS CASTER CORP., Evansville, Ind., manufacturers of furniture casters and hardware, opened a Kansas City district office serving Nebraska, Kansas, eastern Oklahoma, western Iowa and western Missouri, at 2201 Grand Ave., Kansas City, Mo. *Glen B. Ranney, Jr.* is district manager.

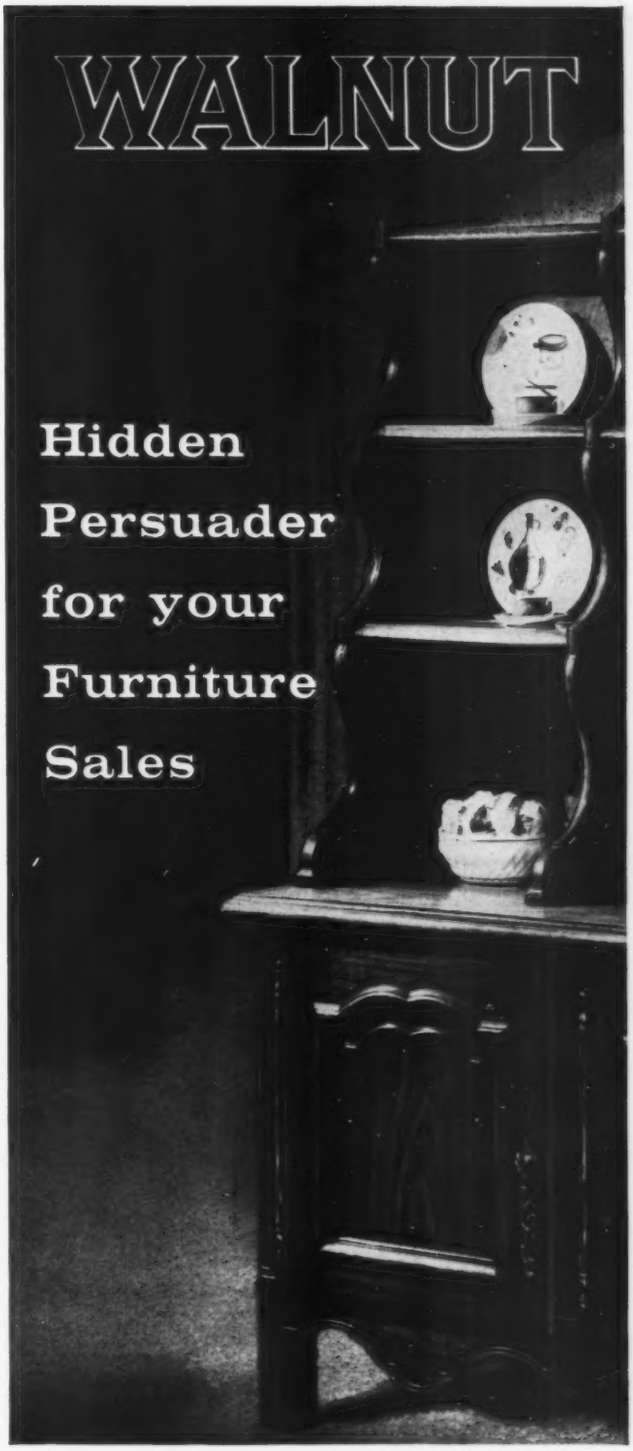
FOSTORIA CORPORATION, *Infrared Division,* manufacturers of infrared system for industries including metal finishing, wood and wood products and plastics, opened a Midwest division office at 4617 N. Pulaski Rd., Chicago with *W. F. Carlin* as manager.

PIONEER PLASTICS CORP., Sanford, Maine, appointed *Edward P. Quilty,* formerly with Textolite Div. of *General Electric Co.,* as sales representative in the southern territory. His office is in the Southern Furniture Exposition Building, High Point, N.C.

ONSRUD MACHINE WORKS INC., Niles, Ill., appointed *Theodore F. Eserkaln* chief engineer responsible for engineering design and development, engineering specifications and final test procedures.

THE DAYTON RUBBER CO. has begun construction of a new warehouse at Waynesville, N.C. Completion is expected in January, 1960 and will be used to service the Waynesville plant.

ARMOUR ALLIANCE INDUSTRIES Alliance, Ohio, announced patent rights have been granted to the coated abrasives



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FURNITURE Digest for Management

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division for its no-load products used for sanding or polishing metal, wood, plastic and a wide range of other types of surfaces.

Customer Expansions & Personnel Changes

UNION FURNITURE CO. will move to new quarters at 617 Broad St., Chattanooga, Tenn., formerly occupied by *Rhodes Jones Furniture Co. Clayton Crawley,* president of the firm which was located at 1300 Market St. announced this will be a drive-in furniture store.

KENT FURNITURE opened a store at 7324 Natural Bridge Rd., St. Louis, Mo. *Harold C. Johnson* is general manager of the firm which specializes in contemporary styles.

STANDARD FURNITURE CO. opened a new 30,000 sq. ft. store called *Holiday House* at 2755 Highland Dr., Salt Lake City, Utah. *James M. Armstrong* is president of Standard Furniture; *James M. Armstrong, Jr.* is general manager.

BEWLEY FURNITURE CO., 1843 Texas, Shreveport, La. added 4,000 sq. ft. to its store for a total of 80,000 sq. ft. The new section is devoted to furnishings of the Early American period and ranch style furniture. *B. R. Bewley* and *George Gray* are owners.

JAY'S FURNITURE AND APPLIANCES, Serman Dr. and Michigan, Indianapolis, Ind., opened a new store featuring furniture and accessories. *James Bryant* is manager.

TORMAN FURNITURE CO., Illinois Ave., Mendota, Ill. opened a new store following the purchase of *Walker Furniture Store. William Moss* is manager of the firm which also has a store in Paw Paw.

NETTLETON'S INC. opened a furniture store at 805 W. Main St., Farmington, N.M. *E. Dale Nettleton* is president.

C. L. BARNES & SONS, Alexandria, Va. purchased a furniture store at 936 Centerville Rd. between Manassas and Centreville, Va.

VOGUE FURNITURE INDUSTRIES opened a new showroom at 3609 W. 95th St., Chicago. The outlet will feature moderately priced designs including several custom-covered import groups from Scandinavia.

FORD FURNITURE STORE, East Main St., Gallatin, Tenn. opened a new store featuring furniture and home accessories. *Alvin and Harry Ford* are owners.

FELTS & GREEN, 812 S. Main St., Springfield, Tenn. opened a furniture and appliance store in the quarters formerly occupied by *G. S. Moore and Son.* Owners are *Alton Felts* and *Toby Green.*

Bedding Manufacturers To Hold Convention and Supplies Market

National Association of Bedding Manufacturers

44th Annual Convention and Supplies Market

DATE: November 15-18

PLACE: Conrad Hilton Hotel
Chicago, Illinois

CONVENTION PROGRAM

Sunday, November 15

12:00 Noon	Luncheon Meeting Board of Trustees

Monday, November 16

9:00 A.M. to 12:00 Noon	Call to Order, Business Sessions and Featured Speakers
12:15 P.M.	Luncheon Meetings
1:00 P.M.	Ladies Luncheon
6:00 P.M.	Cocktail Party

Tuesday, November 17

9:00 A.M. to 12:00 Noon	Business Session Featured Speaker
12:15 P.M.	Luncheon Meetings
6:00 P.M.	Second Annual NABM Award Banquet

Wednesday, November 18

9:00 A.M. to 12:00 Noon	"Word Power" Seminar
1:00 P.M.	Luncheon Meeting

BEDDING SUPPLIES MARKET HOURS

Sunday, Nov. 15—12:00 Noon to 5:00 P.M.

Monday, Nov. 16—12:00 Noon to 5:00 P.M.

Tuesday, Nov. 17—9:00 A.M. to 5:00 P.M.

Wednesday, Nov. 18—9:00 A.M. to 12:00 Noon

Over 2,000 bedding manufacturers and suppliers are expected to attend the 44th Annual Convention and Supplies Market of the National Association of Bedding Manufacturers, November 15 to 18 at the Conrad Hilton Hotel, Chicago. More than 110 companies are slated to exhibit materials, equipment, supplies and services for the bedding industry.

The convention program and supplies market will open at noon on Sunday. The general session of the convention which begins at 9:00 a.m. on Monday will feature a talk on "How to Get the Most Out of Advertising" by *Richard E. Jager*, sales promotion manager of the *Simmons Company*. The talk will be a duplication of the address which Mr. Jager delivered last August during the Sales Management Institute for Bedding Executives held at the University of Georgia. The session will also present a panel discussion by six women who participated in McCall's "Second Annual Congress on Better Living" at Washington, D. C. The panel will be moderated by *Thomas W. Bresnahan*, associate advertising director of *McCall's* magazine. After the panel of women have completed a discussion on their opinions of the bedding industry's products they will answer questions directed from the audience.

A two and a half hour clinic will be held Tuesday morning, November 17, conducted by *Dr. G. Herbert True*, speaking on "Creativity . . . The Professional Approach." Dr. True, who was a featured speaker at the Management Institute held last year at Michigan State University, has an impressive background as a research psychologist, lecturer, educator, creative consultant and author.

The second annual NABM Award Banquet will be held Tuesday evening in the Grand Ballroom of the Hilton. Featured speaker will be *Ernest K. Lindley*, Washington editor of *Newsweek* magazine, talking on "Washington Tides." During the banquet the man selected for recognition on the basis of his outstanding service and devotion to the industry will be announced.

A seminar on "Word Power" will be conducted by *Charles Bury* of *Charles Bury and Associates*, communication consultants, Wednesday morning, November 18. Mr. Bury who is known as the "Word Man" specializes in communications and has lectured in over three hundred cities in the U.S., Canada and Europe.

The bedding supplies market which will be located in the Conrad Hilton Hotel's Main Exhibition Hall, Exhibition Hall Annex, Exhibition Hall Lobby and the Williford Room on the third floor will have the following hours: Sunday and Monday, November 15 and 16, 12:00 noon to 5:00 p.m.; Tuesday, November 17, 9:00 a.m. to 5:00 p.m.; and Wednesday, November 18, 9:00 a.m. to 12:00 noon. ■

BEDDING MANUFACTURERS attending the NABM Supplies Market will be able to view over 110 exhibits of companies offering material, equipment and supplies. Photo courtesy of The Seng Co., manufacturer of sofa bed construction. Operation of Seng's "Step-Toe-Magic Opener" for sofa sleepers is demonstrated.

List of Suppliers exhibiting at the NABM Show was not available from the National Association of Bedding Manufacturers at the time FDM went to press.

FURNITURE Design & Manufacturing

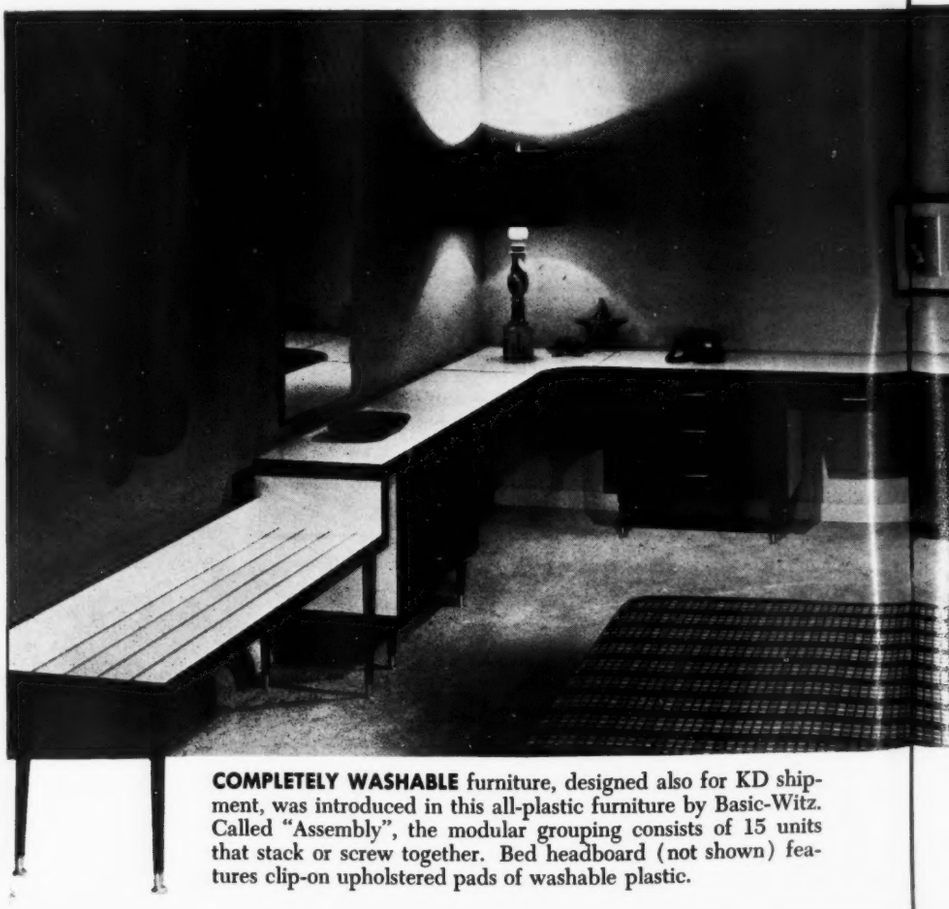
VOL. 31, NO. 11 • NOV., 1959

THE BASIC-WITZ FORMULA FOR SUCCESS

MODERN PLANT, built by Basic-Witz at Staunton, Virginia, is part of the modernization and expansion program completed by the company to date. Company management stresses modern equipment.

FINISHING is an important facet of production quality at Basic-Witz. Palletized conveyor system is used for case pieces.

TRUCK AND TRAILER FLEET is operated by Basic-Witz to handle shipments of furniture from its plants. One of the transportation units is shown here.



COMPLETELY WASHABLE furniture, designed also for KD shipment, was introduced in this all-plastic furniture by Basic-Witz. Called "Assembly", the modular grouping consists of 15 units that stack or screw together. Bed headboard (not shown) features clip-on upholstered pads of washable plastic.

E. M. BONFOEY, president of Basic-Witz, believes in pace-setting improvements in plant and production equipment as an important key to quality.

How alert management built Virginia manufacturing concern to position of industry leadership—by Carolyn Knuemann

The vitalities of one man and a 800-person organization have pushed the Basic-Witz Furniture Industries, Inc., into the top-ten volume bracket of furniture producers nationally.

The man is young, progressive president E. Monroe Bonfoey.

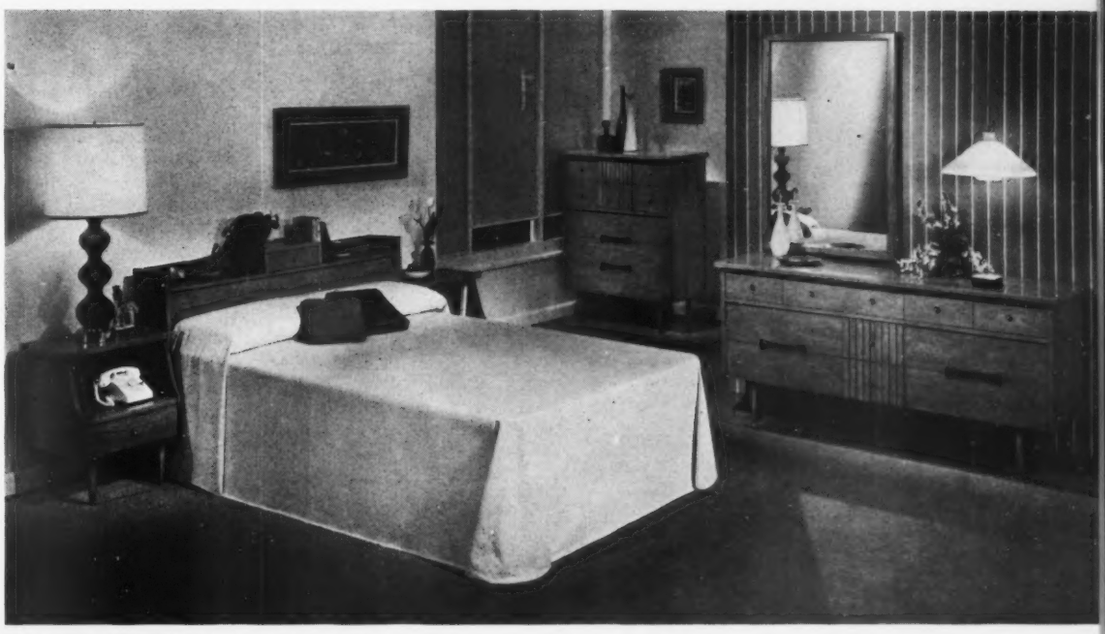
Nestled in the Blue Ridge Mountains of Waynesboro, Va., the company operates two neighboring factories: the parent plant at Waynesboro, where period lines and large case pieces are made, and the recently enlarged Staunton base, which manufactures Contemporary and Modern and stretches two-thirds of a mile from dry kilns to final shipping point.

The Basic-Witz story is primarily one of management and production although the company keeps step with alert merchandising, design and sales programs also.

Bonfoey, ever-ready to recognize the value of analyzing a situation, named eight keys to Basic-Witz's furniture-making success during a special interview for FURNITURE DESIGN AND MANUFACTURING.

1. Forward-looking approach
2. Youthful top-executives
3. Consistent modernization and

Continued on Page 41



DANISH MODERN, designed by Sanford Wallack, is the feeling of this "Tempo" group in swirled grain mahogany. Carved openings serve as drawers pulls and separations as well.

FRENCH PROVINCIAL in small scale is this "Bretagne" dining room group, designed by Bernard Bruening for Basic-Witz. Carved scroll designs makes it completely authentic in styling.

Upholstery Construction

A regular monthly feature by

LEONARD S. SIMON

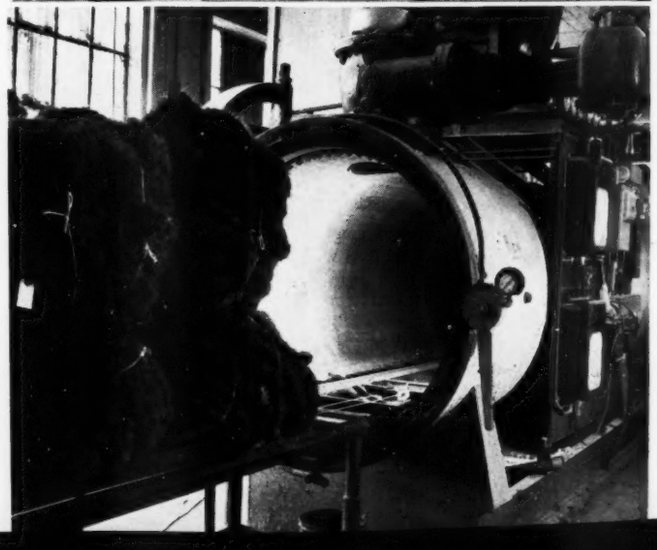
Upholstery Construction Editor

WIDE VARIETY—Rubberized curled hair is offered in a selection of thicknesses, densities, various facings and backings, and in rolls or die cut to specified shapes. Photo courtesy Armour & Company.

TESTING OF RUBBERIZED HAIR, seen here at Texlite laboratory, includes pounding and flexing and accelerated aging tests, proving the durability of this age-old, but modern material. Photo courtesy B. F. Goodrich.

PERMANENT WAVE is formed in animal hair by means of winding it into ropes, treating in live steam vats under pressure. Each hair becomes a tiny spring. Photo courtesy B. F. Goodrich, Texlite Division.

ONE CUSHION CONSTRUCTION finding effective today includes rubberized curled hair pad over springs, covered by cotton batting. Photo courtesy Jamesville Cotton Mills.



Do Not Overlook the Advantages of Curled Hair Cushioning

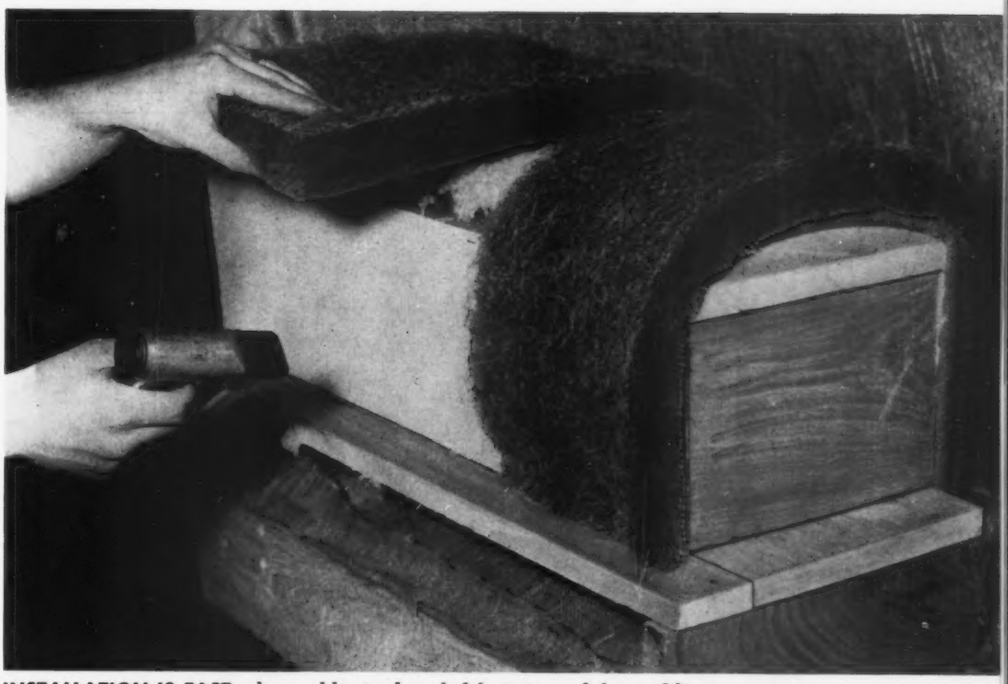
One of man's oldest cushioning materials is available today in many improved, sales-stimulating forms

"Thrilling . . . gripping . . . fascinating—as much so as the most exciting fiction you've ever read." So begins the introduction of a booklet, "The Inside Story of Curled Hair", published by Blocksom & Co., Michigan City, Ind. And the synonymity of the Blocksom name with Curled Hair and Rubberized Curled Hair products lends authority to their informative and interesting statements.

Although animal hair was not put to actual use until about 200 years ago, continues the Blocksom "Story", this natural product has been in existence for over a million years. Despite modern innovations in the cushioning and padding area, all of which we respect, our hat of industrial surveys is tipped to this ancient product of spontaneous resilience. What are some of the fundamental virtues of curled hair?

According to Blocksom, it is permanently resilient, containing thousands of miniature spiral springs that respond to the slightest pressure. It does not absorb moisture or odor, they say, and because of the natural porosity, it will not absorb odor incident to body exudation. Curled hair is a non-conductor of heat or cold, and because it is doubly sterilized it is highly sanitary. Moreover, concludes the Blocksom report, it has advantages of long life and economy.

Blocksom's loose curled hair operations began in 1919 under the direction of founder B. H. Blocksom. Proclaiming to be the originators of Rubberized Curled Hair, development of the now famous Blocksom "Paratex" began in 1931. But such product development, they point out in their alluring story, owes its birth to the passing of one of this country's zaniest fads—the shortlived "peewee" golf craze of the early thirties. For it was as the putting green of a miniature golf course for which the first rubberized curled hair was originally engineered. To meet the demand for



INSTALLATION IS FAST when rubberized curled hair is used for padding over arms or other irregular shapes. Material is easily attached to frame with production air-powered tackers. Photo courtesy Blocksom & Company.

AS TOPPER PAD for mattress, rubberized curled hair is applied over sisal insulating pad. Photo courtesy F. P. Woll & Company.

Curled Hair Cushioning

Continued from Preceding Page

a realistic putting surface which would stand abuse, Blocksom took some of their interlaced hair padding and dyed it green. They spread it with liquid latex, vulcanized it in an oven, and rubberized hair was born. But midget golf addicts soon tired of the game, and Blocksom engineers and merchandisers ingeniously turned to the padding and cushioning fields with their product . . . famous these many years as their patented "Paratex."

According to Robert Z. Blocksom, Blocksom's president, their current promotion of "Sanitized Paratex" is another example of how his company develops new items for the furniture industry. Says Mr. Blocksom, "There is no question that in the next few years all products used in the manufacture of furniture and mattresses will contain some type of bacteriostat and even some type of germicide."

The "big news" from Blocksom concerns the introduction at the recent NAFM Supply, Equipment and Fabric Fair of their new "Deluxe Paratex" rubberized curled hair pads for furniture backs. This new "super soft" pad, declares Mr. Blocksom in a recent release, truly feels like expensive down. Besides its softness and resiliency, he adds, it offers several distinct advantages of its own, including much lower cost than competitive luxury products. An entirely new curled hair formula and a new technique for curling hair which increases the curl by over 40 per cent are said to be responsible for the sensational benefits claimed. The final result, says Mr. Blocksom, is a pad for furniture backs that conforms to any contour, eliminates extra padding, tacks or sews easily and quickly, and imparts to the back a true "luxury feel" at production line cost. It is particularly suitable for tufted backs, he concludes, as it can be sewn to the fabric before applying to the frame.

Armour and Company, one of the giants in the meat packing industry, entered the cushioning field quite logically. Animal hair, a natural by-product, was at their disposal in large quantities, and consequently Armour has been manufacturing loose curled hair cushioning materials for the past 80 years. And since 1933, with their patented "Hairflex," they have been one of the major producers of rubberized curled hair for the furniture and bedding industries.

With general offices in Alliance, Ohio, the Cushioning Products Division of Armour Alliance Industries maintains manufacturing facilities strategically located in Alliance and at the division's Pacific Coast plant in Los Angeles, Calif.

According to a company report, only the finest quality raw materials are used in the manufacture of Armour cushioning products. Prime winter domestic Northern hog hair and domestic cattle tail hair are combined with latest scientific developments in latex and neoprene rubber to form a superior rubberized curled hair cushioning material, the report continues. The animal hair is washed and cleaned in separate Armour processing plants prior to shipment to the aforementioned manufacturing plants, and processing rubber is provided by non-company suppliers. Upon arrival at the manufacturing plants, the animal hair is then sorted according to type and combined in specific and rigid proportions. After feeding the hair into special machines which blend the material together, the hair is then mechanically curled into "ropes" in

Continued on Page 18

Production tacking is an easy job with the DUO-FAST Hammer Tacker. Fastest manual tacking method . . . beats nailing 3 to 1. Light, yet rugged tool . . . with "engineered balance" to minimize fatigue.

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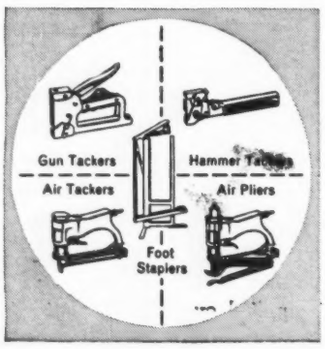

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FURNITURE MANUFACTURERS ACCLAIM NEW BLOCKSOM

Sanitized® GREEN PARATEX

Greatest New Development in Rubberized Curled Hair Fillers in 25 Years

Hundreds of furniture manufacturers all over the country are switching to Blocksom's new green *Sanitized* Paratex because of its tremendous sales advantage over other fillers. Paratex is the first and only rubberized curled hair filler that offers manufacturers the tremendous sales advantage of the nationally recognized *Sanitized* trade name.

ADVANTAGES OF SANITIZED

- **Antiseptically clean**
- **Inhibits growth of mold, mildew, fungi and rot**
- **Retards perspiration odors**
- **Non-toxic—non-irritating**
- **Laboratory tested and approved**

BLOCKSOM & COMPANY
Main Office and Plant: Michigan City, Indiana
Branch Plants: Etowah, Tenn., Los Angeles, Calif.

IF IT DOUBLE CHECKS IT'S

Paratex Sanitized®

☑ *for sealed-in Hygienic Protection*

☑ **NATURE'S GREEN**
for relaxing . . . refreshing comfort

Curled Hair Cushioning

Continued from Page 16

order to secure springy and resilient curl for the best in cushioning characteristics. Following the "rope curling" method, the material is scientifically steamed in compressed chambers, and then fed into a machine which tears the rope apart. The resulting millions of tiny pieces of hair are systematically laid onto a moving belt, sprayed with rubber, and passed through an oven which bonds the materials into a buoyant cushioning pad of rubberized curled hair.

Recently introduced, and fresh from the Armour research laboratories, is the fire-new, but "Flame Resistant Hairflex." Resistance of their new discovery to flame, they say, is proved by four exhaustive tests. In test number one, a flaming match placed on Hairflex did not ignite the material, and the match extinguished itself after 20 seconds. Next, Hairflex was placed above a Bunsen burner heated to 800 degrees centigrade. Again the material did not explode or flare up. In a "Military" test, a red-hot 800 degree centigrade steel ingot penetrated Hairflex 50 per cent, but there was no flame or explosion. Finally, to verify their claims, Armour testers used the intense heat of a welding torch, but the flame could not ignite the Hairflex cushioning during the twenty second test, they say.

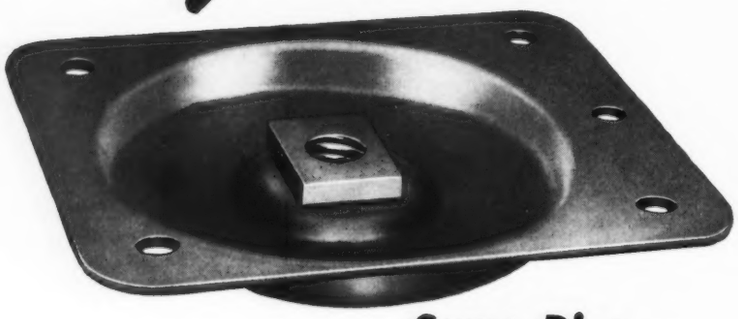
Distinguished since 1878 as producers of cotton felt, the Janesville Cotton Mills, Janesville, Wis., are equally prominent today as manufacturers of their "HairKore" brand of Rubberized Curled Hair. Pioneering Janesville engineers had a head start in procedures of automation, having developed a method of pad assembly for the automotive trade about 30 years ago. The prefabricated, ready-for-assembly, auto seat padding remained an integral part of Janesville's business until 1953 when they broke ground for their ultra-modern Rubberized Curled Hair plant in Norwalk, Ohio. And this plant, according to a Janesville report, has worked at full speed since its completion, using latest techniques in the manufacture of their HairKore products.

Says Janesville's general sales manager M. E. Mott, "Our manufacture of Rubberized Curled Hair is tied in with prefabrication development designed to eliminate operations in padding assembly for upholstered units. Such padding prefabrication, in addition to saving in operations, also represents a saving in floor space and storage handling. And savings computed on the overall advantage represents a substantial decrease in upholstering costs while providing improved tailoring for the upholstered pieces."

A new and progressive manufacturing step, continues Mr. Mott, concerns HairKore quality improvements. Through continual testing and experimentation, Janesville researchers have developed a HairKore product said to be mold and fungus proof as well as being repellent to moths and vermin. The new product is called "Royal HairKore," and its blue color is distinctively Janesville's. The product has built-in protection from odors, they say, containing a deodorizing agent that makes and keeps it odor-free. Also, it's said to be hygienically clean and completely non-toxic.

Because prefabricated components are becoming so increasingly important to the perpetual motion of production lines, Janesville has developed

NEW, LOW PRICES ON *Victor* PLATES!



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How can Victor afford to lower the price of the #7 and #7A Clinch Nut Plates without changing design or sacrificing quality. The answer lies in the installation of new automatic equipment that reduces costly handling operations. The more you order the more you save . . . AND you still get Victor quality at the price of *second rate imitations.* ORDER NOW!

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"padding combinations" to cut production costs. Among these: HairKore "C" . . . HairKore topped with cotton batts; HairKore topped with varied thicknesses of the consequential new Urethane foams; HairKore with laminated topping, and die-cut to design; and completely fabricated sofa back and chair back padding to further speed performance.

One luminous use of HairKore "C" is Janesville's new "Die-board method" for "mass-producing backs of custom quality." How simple is the Die-Board Method? Janesville delineates the procedure in just four steps. Merely form 1½" aluminum or steel stripping to the outline of the intended design, and mount on a plywood sheet of the same size as the back of the unit. Throw the cover fabric over the whole jig, and tamp the fabric into each panel with a wood block cut to shape. Die-cut-to-size HairKore "C" panels are quickly inserted, and the entire back is then sprayed with adhesive and covered with Osnaburg. Each panel is perfect in every detail, they promise, and the finished back piece lifts out like a "mold" . . . ready for installation.

"Sanaflex," one of the foremost names in the curled hair industry is the Rubberized Hair product of a long established firm, the Chicago Curled Hair Company, Chicago, Ill. Incorporated in 1914 by dean of Chicago business men, banker Bernard Horwich, the concern was an outgrowth of a predecessor business with which Mr. Horwich had been identified for about ten years preceding this date. And it is industry history that the Chicago Curled Hair Company has grown to its position of leadership under the direction of company president Arthur Horwich and brothers Phil and Ted.

According to Frank M. Loring, sales manager, Rubberized Hair Division, the company pioneered in the use of animal hairs as a filling material for numerous applications. From its beginning as a supplier to the quality furniture and bedding trade, Chicago Curled Hair expanded to play an important role as a producer of their loose curled hair cushioning material for the luxury cars in the early days of the automotive industry.

Chicago Curled Hair entered the field of Rubberized Curled Hair in the mid-1940's, and in 1955, because of the briskness of its business, a large plant was erected in Chicago Heights, Illinois.

Adds Mr. Loring, "Today, rubberized curled hair cushioning and insulating materials of the company are shipped to all states of the Union, as well as to numerous countries overseas, and its products are sold by a coast-to-coast distributor organization."

Chicago Curled Hair recently introduced an item called "Wondersoft." It's a special application as a filling material to give a luxurious feel in furniture backs, they point out, and has captivated the imagination of many designers of the largest furniture producers in the nation.

In ever continuing product research and development, the Chicago Curled Hair Company promises other new items will be introduced to the filling materials field in the near future.

Claiming to be the oldest existing curled hair manufacturer in the United States, F. P. Woll & Company, Phila-

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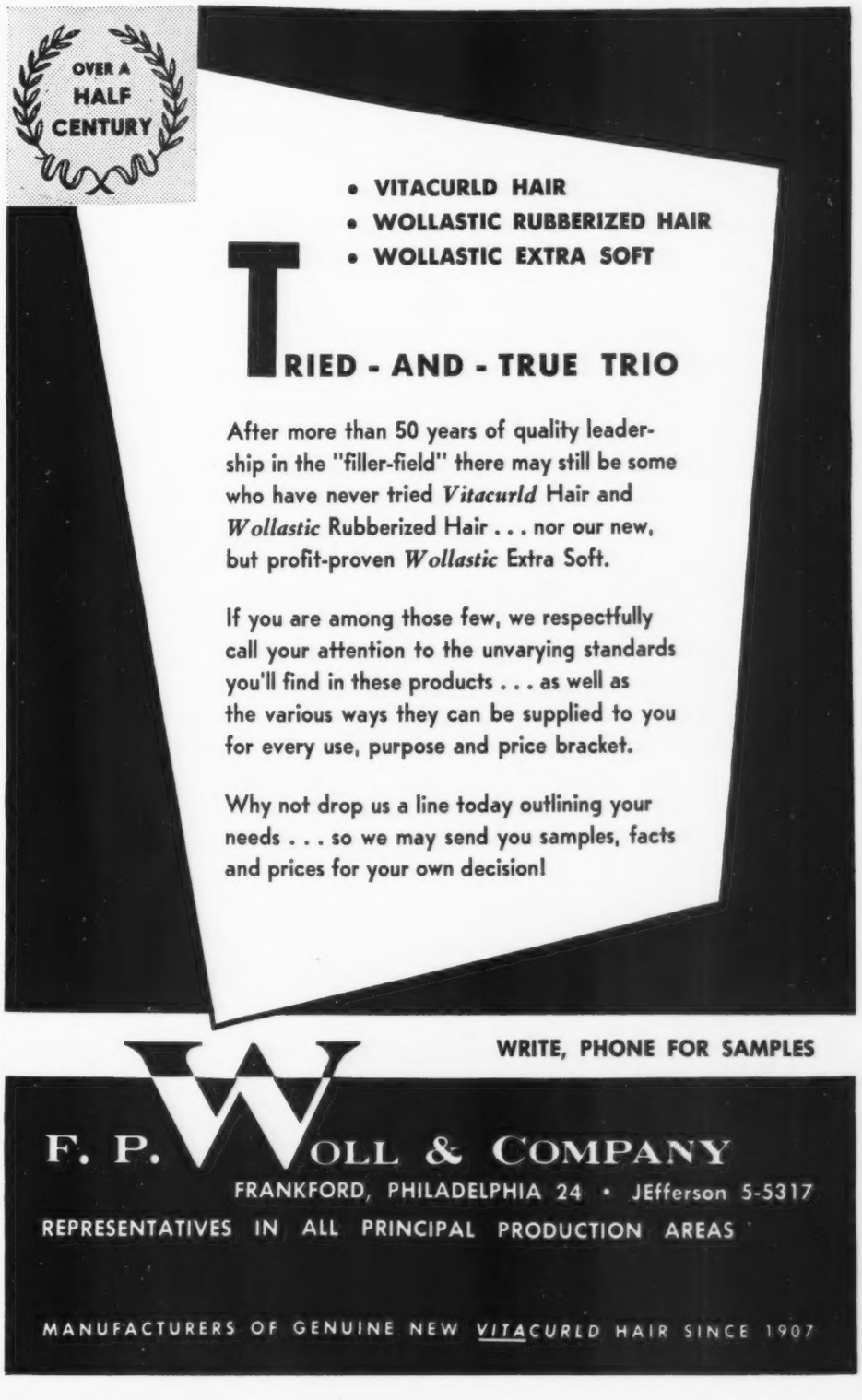
OVER A
HALF
CENTURY
• VITACURLD HAIR
• WOLLASTIC RUBBERIZED HAIR
• WOLLASTIC EXTRA SOFT
TRIED - AND - TRUE TRIO
After more than 50 years of quality leadership in the "filler-field" there may still be some who have never tried Vitacurld Hair and Wollastic Rubberized Hair . . . nor our new, but profit-proven Wollastic Extra Soft.
If you are among those few, we respectfully call your attention to the unvarying standards you'll find in these products . . . as well as the various ways they can be supplied to you for every use, purpose and price bracket.
Why not drop us a line today outlining your needs . . . so we may send you samples, facts and prices for your own decision!
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REPRESENTATIVES IN ALL PRINCIPAL PRODUCTION AREAS
MANUFACTURERS OF GENUINE NEW VITACURLD HAIR SINCE 1907

Curled Hair Cushioning

Continued from Preceding Page

delphia, Pa., traces the inception of its manufacturing enterprises in this vital industry to post Civil War days. Since then, a succession of Woll family descendants have been actively engaged in the occupation of making the Woll name prominent in the Curled Hair industry. F. P. Woll & Company, as we know it today, was a Golden Anniversary celebrant two years ago, having been founded by the late Frederick P. Woll in 1907. Woll's present president, Adolph Woll Jr., is a brother of the founder.

Woll describes their patented loose "Vitacurld" hair as having been recognized as a standard of excellence in the industry for many years. They call it a superior blending of cattle, horse, and hog hair, and processed in curling, sterilizing, and picking methods to give a tighter curl, more lasting resiliency, and greater porosity. And since 1936 "Vitacurld" hair has been the base for the company's "Wollastic" Rubberized Curled Hair.

Says Seneker Woll, secretary, F. P. Woll & Company, of "Wollastic," "It's a furniture and bedding filler that cuts costs in the factory and promotes sales on the retailers' floors. Millions of tiny natural springs of the finest quality animal hair are bonded with live buoyant latex to produce its eager resiliency. In factory assembly it can be worked with time-study precision. And Wollastic can be nailed, sewn, or tufted. There is no need for shaping or stuffing . . . just cut to pattern and attach on any surface."

Another Woll report depicts further Wollastic advantages as having unusual uniformity and smoothness of surface, thus insuring trim, well-tailored furniture and bedding. It remains cool, asserts Woll, permanently porous, non-absorbent, and odor-free . . . yet its lightness belies a remarkable strength enabling its use in place of bulky materials formerly thought necessary at points of hard wear.

Wollastic's maker suggests its use in upholstered furniture on arms, seats, backs, and platforms . . . in addition to cushion inserts or wraps; in bedding products as topper pads, insulators, complete units for juvenile mattresses, and for bolsters. They extoll its use in utility cushioning, auditorium seating, restaurant and tavern booths, and in transportation seating. And, in fact, they say, Wollastic can be used in every padding or filler application . . . by itself or with loose hair, cotton, latex foam, Urethane and Vinyl foams, and springs.

One of the eminent foam rubber manufacturers, The B. F. Goodrich Company, Shelton, Conn., is also actively occupied in this significant Rubberized Hair industry producing their "Texlite" rubber-reinforced curled hair cushioning.

Depicting the favorable qualities of Texlite, the company points to its light weight and its uniformity of compression resistance. Also, they say, it will not lump, shift, or mat down, in addition to being economical, long-lived, non-allergenic, and vermin proof.

All B. F. Goodrich Texlite has a rubberized cottonette backing vulcanized to the material to create a built-in insulator, adds a company spokesman. And important for slim-line upholstery styling, Goodrich produces a form of Texlite available with a top layer of rubberized curled wool to eliminate the hair feel. It's especially advantageous, they relate, where the application will not permit cotton's bulk as a topping. Where the greatest cushioning is required of the least thickness, concludes the Goodrich account, Texlite is furnished 100 per cent in the rubberized wool version.

It's a long peg from the baseball diamond to supplying components which are importantly adaptable to the structure of diamond tufts in upholstered furniture, but it is being heralded that Dom DiMaggio, former baseball great of the Boston Red Sox, has knocked out a grand slam as president of the American Latex Fibre Corporation, Lawrence, Mass.

A company statement advises that American Latex began manufacturing operations in December of 1953, and have continued at a growing pace under Mr. DiMaggio's leadership.

Using the trade name "Rubr-Hair," American is reputed as being one of the pioneers in marketing a rubberized curled hair product with vertically orientated hair. This vertical hair orientation, they explain, combined with natural latex, results in improved compression characteristics of the finished product.

On the whole, it is quite evident that the progress of the Rubberized Curled Hair industry has added another salient factor to the remarkable advancement of the Upholstered Furniture and Bedding industries. ■

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Every leg, every ferrule of the extensive Wilkenson line is a masterpiece of graceful lines . . . strength . . . and enduring beauty. Wilkenson Square and Tapered Legs are slim, seamless, strong . . . available in lengths from 3" to 28" . . . in satin brass, coppertone, chrome and pewter.
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Cover Story

For details of color cover illustration, see page 5.

QUALITY STANDARDS must be met by upholstery fabrics made of the company's acrylic fiber before they are permitted to bear the Acrilan label.

COLORFASTNESS of upholstery fabrics is tested in Launder-ometer. Jars containing fabrics are partly filled with soapy solution and contain small steel balls which batter swatches while rotating within tank at a regulated temperature setting. Fabrics tested are of Acrilan, Chemstrand's acrylic fiber. Photos courtesy Chemstrand Corp.

Acrylic Fibers Promise Better Fabric Performance

Why more furniture manufacturers are using upholstery covers woven of Acrilan fibers

Introduced five months ago, upholstery fabrics made with Acrilan acrylic fiber are presently in the lines of eleven leading furniture manufacturers and six prominent fabric jobbers. The full impact of these figures is conveyed by the realization that this was the introduction of a fiber entirely new to the upholstery industry.

When The Chemstrand Corporation, producer of Acrilan acrylic fiber, first announced the commercial production and application of its fiber in upholstery fabrics, the company also disclosed the institution of a quality construction standards program setting forth the minimum specifications required for these fabrics.

Chemstrand's quality program has continued to maintain specific construction and performance standards in these fabrics to assure jobbers and manufacturers of securing maximum performance characteristics of Acrilan in this end use, and to provide the upholstery and furniture industries with consistent quality fabrics.

In accordance with the terms of the quality program, the face yarns of the fabrics must be 100% Acrilan, whether they be warp or filling yarns. For other than face yarns, other fibers may be blended with Acrilan, but the total fabric must be not less than 50% Acrilan by weight. These, however, are the minimum specifications; fabrics made with from 50% to 100% Acrilan are also available.

In addition to prescribing fiber content and fabric weight, the minimum specification standards set for the fabrics cover also resistance to abrasion, fuzzing, tearing, seam slippage, stretching, and shrinkage under cleaning conditions. The program also involves tensile strength and colorfastness to light, plain water dry and wet crocking, and laundering.

Because Acrilan is an extremely versatile fiber, a product of the chemical textile industry, its affinity for dye provides an interesting range of tone and color possibilities of superior strength and clarity that can be lively or, where appropriate, soft in character. In determining the colorfastness of upholstery fabrics of Acrilan, it has been found that they qualify for not only the industry's minimum 40 hour requirement, but also maintain in most colors a colorfastness to light up to 100 hours and more.

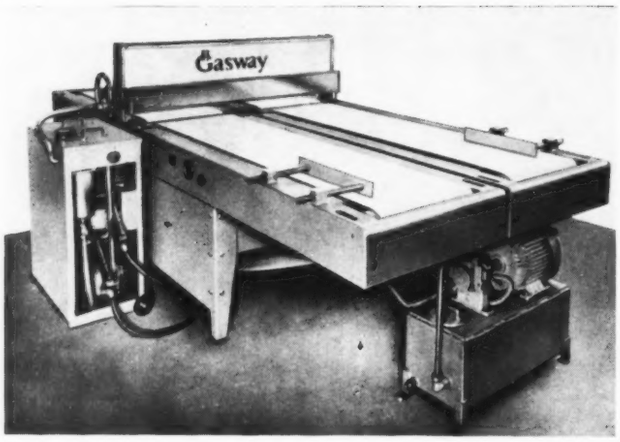
Fabrics of Acrilan possess also the fiber's built-in soil resistance, easy cleanability and high degree of re-

Continued on Page 39

It's NEW

- **Materials**
- **Equipment**
- **Supplies**
- **Components**
- **Literature**

For more information on items listed in the IT'S NEW Columns use the handy Reader Service Card opposite page 26. Complete details on these items will be sent to you by the manufacturer.



EASILY ADJUSTABLE curtain-type coater can be set up for operation with only two adjustments.

Curtain-Type Machine Coats Varied Materials

A new curtain-type coating machine which uses a weir or dam over which the material flows to produce the curtain has been announced by Gasway Corporation of Chicago. The machine is based on the flow or pour-coating principle in which the work is passed through a continuous falling curtain of coating material. The curtain of paint, varnish, lacquer or other finish is deposited on the work to a thickness regulated by the flow rate of the curtain and the speed of travel of the work through the coater.

The coater will coat varied materials including steel, wool, aluminum, fibreboard, paperboard and plastic and coating thickness may be varied from ½ mil to 25 mils or more as desired. It can be set up for operation with only two adjustments, one for conveyor speed through the machine and one for pump speed which regulates the curtain speed. Most coating materials can be applied without special formulation.

The machine is equipped with a permanent, self-cleaning filter and incorporates an interchangeable and portable paint system, eliminating need for tedious color change-over operation. Conveyor speed range is variable between 50 and 450 RPM. Coaters can be furnished for either right or left hand operation in four sizes and are furnished with 3 HP, 220-440 V. 60 cycle explosion-proof motors.

For More Information Circle Reader Service Number 291

High Speed Finishing With Orbital Air Sander

A new high speed orbital air sander for finishing of metal, wood, plastics and other materials is being offered by Aro Equipment Corporation. Operating at 8,500 RPM, the sander is said to provide faster, more efficient removal of the material being sanded.

The sander is powered by the Aro air motor and operates on normal air pressure. The balanced design, light weight and compactness of size of the tool make it easy to use over a variety of finishing operations.

BALANCED DESIGN and light weight of new sander enables its use over a wide variety of finishing operations.

The unique level control conforms to the natural contour of the hand for comfortable handling. It is said to sand right up to edges, making extra finishing operations unnecessary. The sander uses standard 3⅔ in. by 9 in. abrasive sheets.

For More Information Circle Reader Service Number 292

Hoops For Table Rims Offered In Varied Sizes

A broad assortment of hoops for use on table tops or any other product requiring a rounded top or base is being offered by The Gibbs Manufacturing Co. The hoops are manufactured from beech, maple, ash, oak, walnut, cottonwood, and other wood species.

WIDE ASSORTMENT of hoops for table rims made from a variety of woods are available to the furniture industry.

The hoops are made from ripped wood sticks which are scarfed on each end and rolled against a cast iron form using heat and pressure and some moisture. The joint is glued, using specialized clamps and the rough piece is then turned on a chuck.

Table rims with an outside diameter of 24, 30 and 36 inches are available in 3/16 in. stock.

For More Information Circle Reader Service Number 293

New Tilting Arbor Saw Features Accurate Cutting

A new model 12-inch tilting arbor saw, equipped with tubular guide bars, front and rear, has been announced by Powermatic Machine Co. The Model 71 saw has a newly developed rip fence which is said to incorporate features most desired by all consumers. Alignment of the fence with the table is accomplished by means of an adjusting screw in each side of the fence, to provide accurate ripping of all types of stock. The front bar has an accurate vernier scale adjustment with lines and figures painted red for easy reading. The fence-locking mechanism with front and rear control handles is conveniently located at the front of the fence.

The table is 30 x 40 inches, made from grey iron

SAFER OPERATION is provided with new arbor saw as the saw blade tilts away from the fence.

castings. The 12-inch saw blade tilts a full 45° and features a 2⅞ in. cut. At 90° the saw cuts a full 4⅛ in. for extra heavy duty work. The 1 in. arbor is mounted in large sealed ball bearings, requiring no lubrication,

foam

HEADQUARTERS HAS MOVED TO SERVE YOU BETTER

with

POLYETHER FOAM CORES & CUSHIONING

CHICAGO FOAM PRODUCTS

is pleased to announce . . .

- NEW ADDRESS (increased facilities) 3630 S. Iron Street, Chicago, Ill.
- NEW PHONE (for fast action) CL 4-8088

NEW, MORE EFFICIENT EQUIPMENT FOR FASTER AND INCREASED PRODUCTION

THE SAME, PERSONAL SERVICE AND ATTENTION TO YOUR NEEDS

CHICAGO FOAM PRODUCTS CORP.

3630 S. IRON ST., CHICAGO, ILL., PHONE CL 4-8088

You've never seen anything so beautiful as VICTOR'S new custom finished

DANISH LEGS

Here is grace and beauty that is destined to set a new trend in style. Specially designed Danish Legs by Victor are of kiln dried Northern soft maple and feature an authentic Saddle finish that utilizes six rubbing and spraying operations for unmatched depth and richness. Brass glides and ⅜" hanger bolt attached.

	4"	5"	6"	8"	10"	12"
1000 or more	.26	.28	.30	.36	.42	.48
100 to 1000	.28	.30	.32	.38	.44	.50
Attach with our patented clinch nut plates						

- *Fresh, new design*
- *Rubbed Saddle finish*
- *First quality to match your finest furniture lines*

VICTOR IS FIRST AGAIN WITH THE NEW IDEAS IN LEGS!

Victor WOOD PRODUCTS COMPANY

1514 Wealthy, S.E., Grand Rapids 6, Michigan

Phone GLendale 4-8224 "We lead, others follow"

CUT YOUR MANUFACTURING COSTS!

"Pike Brand"
KILN-DRIED HARDWOODS

- Immediate Delivery from steam-heated warehouses
- any Quantity, Thickness or Specie

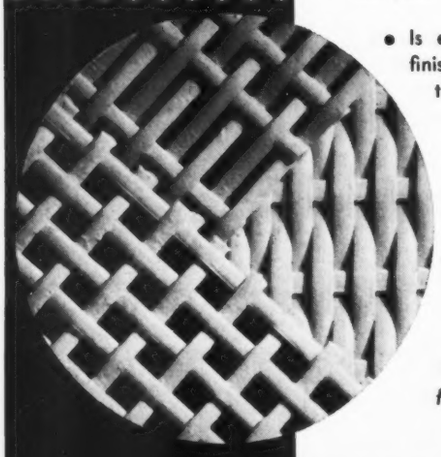
Pike Lumber Co., Inc.

SINCE 1904 AKRON, INDIANA

Wire Grilles by KLISE MANUFACTURING COMPANY GRAND RAPIDS 2, MICHIGAN
56 Cottage Grove SW

• Carved Wood Mouldings • Rosettes

FIBRO-KANE WEBBING



- Has the attractive variegated appearance of natural cane.
- Is much lower in cost, permitting its use in many applications where natural cane has proved too expensive in the past.
- Is easy to apply and finish—can be stained to harmonize with various woods.
- Does not become brittle with age. No undesirable loose "hairs" or splinters.

Samples and full particulars on request.

E. W. TWITCHELL, Inc.
3rd and SOMERSET STS., PHILADELPHIA 33, PA.

It's NEW

For further information, circle appropriate number on reader service card.

and is driven by three "A" section belts for maximum power. The arbor tilts leaving table level for more accurate work and the saw tilts away from fence for safer operation.

For More Information Circle Reader Service Number 294

New Boring Machine For Use in Woodworking

A new multiple spindle boring machine, No. 448, designed specifically for woodworking has been developed by Ekstrom, Carlson & Co. The machine is designed to set up in minimum time to quickly bore any combination of holes, at any spacing, in rectangular work pieces.

The machine has an air operated table lift controlled by a foot valve and a rail on which can be placed

MULTIPLE SPINDLE boring machine is designed to set up in minimum time.

one to eight spindles. The spindle assembly has ball bearing spindle, geared chuck, pulley, cast iron frame, flat belt and 3600 RPM motor with individual push button control station.

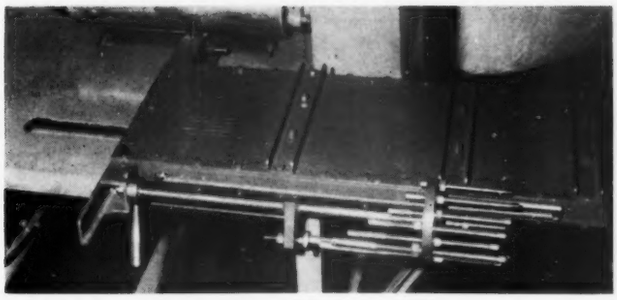
The chuck capacity is 1/16″ to 1/2″ and hold-downs which are fully adjustable can be located anywhere. The minimum distance between spindles is 2½ in. and distance from chuck to table is 10 in.

For More Information Circle Reader Service Number 295

Saw Guide Permits Selective Ripping

The Gresdel Saw Guide which is easy to mount on the saw table, and adaptable to almost any ripsaw, provides selective ripping of moulding, factory and other shop-type lumber, according to Horne & Associates, distributors of the Gresdel Table Ripsaw Set Works.

A table extension plate which is furnished facilitates



ADAPTABLE SAW GUIDE can be mounted to almost any ripsaw, including any of the production type circular, straight-line or band ripsaws.

mounting when the saw table is small.

The set works consists of a base that fastens to the saw table and supports a spring-loaded sliding carriage. A fence of straight edge is attached to the carriage which is mounted on ball bearings for antifriction and which can be moved easily and quickly to pre-set adjustable stops. Models vary and six, eight or ten individual stops may be supplied. The straight-edge or fence is adjustable for setting parallel or otherwise to the saw line and is locked to the carriage.

The unit is made of structural steel and is said to be extremely rigid. Individual stops are quickly pre-set for desired rips from the lumber. Rippings are said to be exactly the desired size with consistent accuracy.

Models are available with six, eight or ten stops. The carriage of each model has a travel of 9½ inches plus the width of the narrowest tip. A special model with a travel of 12½ inches is also available.

For More Information Circle Reader Service Number 296

Disc Sander Designed For Precision Work

A new 36″ disc sander designed for precision work offering a versatile operation and low maintenance has been developed by Master Pattern Works and

LOW MAINTENANCE is a feature of new 36″ disc sander designed to give a life time of trouble-free service.

Foundry. The sander has a steel heat treated disc ¾ in. thick, accurately machined and balanced with centering pin, and features push button controls. The disc speed is 800 RPM.

The table is of normalized cast iron rib construc-

The World's *First* Line of production toggle clamps is your *first* choice for any work-holding problem. If you require fast loading, clamping and unloading of wood parts (or other materials) and *positive control* for gluing, shaping, sawing, assembly or other phases of furniture production, check your De-Sta-Co Catalog *first*—or call your nearby distributor.

The clamps shown are representative of the 140 models and sizes in 13 basic styles; specials are available for your extraordinary problems. Sizes range from 1 ounce Tiny Toggles with 42 pounds holding pressure to 5 pound models developing 2 tons. All have features which are recognized as the standards which others imitate but never equal and you can get fast service and the good advice of top sales engineers from our stocking distributors in every industrial area.

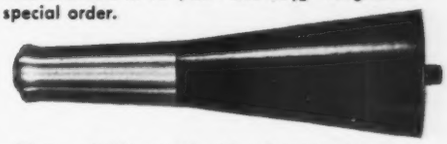
DE-STA-CO
Originators of Production Clamping
DETROIT STAMPING COMPANY
419 MIDLAND AVENUE • DETROIT 3, MICHIGAN

Fashion Flared Legs

Victor leads again with new, new styling at low, low prices . . .

1⅞″ TD, ⅞″ BD with ¾″ Brass Plated Glide								
Length	6″	7″	8″	9″	10″	12″	14″	16″
1000 or more	.32 ea.	.34 ea.	.36 ea.	.38 ea.	.40 ea.	.44 ea.	.48 ea.	.52 ea.
100 to 1000	.34 ea.	.36 ea.	.38 ea.	.40 ea.	.42 ea.	.46 ea.	.50 ea.	.54 ea.

Also availible in 18″, 22″ and 28½″ lengths on special order.



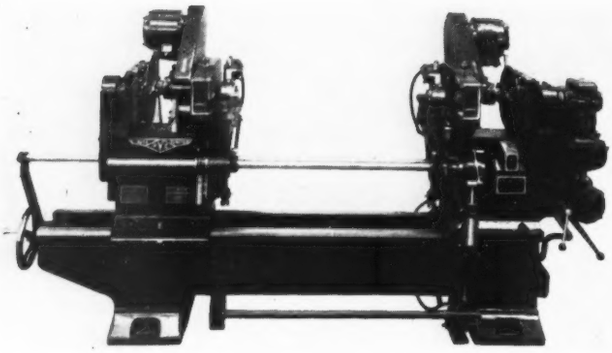
New, solid brass "Fashion Flared" ferrules are used to accent the finishes; choice of blonde, ebony, walnut or mahogany. Kiln dried Northern hardwoods.

Attach with our patented Clinch Nut Plates.

#7 sq. flat 4c ea. #7A sq. 10° 4c ea.
#20 tri. flat 6c ea. #10 tri. 10° 6c ea.
#15 tri. 15° 6c ea.

Victor WOOD PRODUCTS CO.
1514 Wealthy St., S.E., Grand Rapids, Michigan
Phone GL 4-8224 "We lead, others follow"

RYE



Furniture type tenons—straight, angular and compound—are made cleanly and rapidly on the compact RYE Double-End Tenoner DT/2.

Tenons are automatically cut off to length, haunched and rounded for perfect fit.

A companion machine to the tenoner is the RYE H/2, 2-Sided Slot Mortiser for mortising furniture components at fast production speeds.

The RYE tenoner (available also as a single-end machine) and mortiser combination provides a compact assembly for the superior mortise and tenon method of joinery. The machines are quickly installed and may be operated efficiently by unskilled labor. Tenons are cut at speeds of 4-7 seconds and to dimensions: Maximum length 2¼"; maximum width 4½"; maximum thickness ½".

Mortises up to 3" long x 2" deep x ⅝" wide may be cut; also holes up to ⅝" diameter by 2" deep may be bored.

M. N. THACKABERRY
DISTRIBUTORS INC.

1300 S. SOTO STREET • ANgelus 8-3111 • LOS ANGELES 23, CALIF.
WOOD AND METAL WORKING MACHINERY • PORTABLE TOOLS

It's NEW

For further information, circle appropriate number on reader service card.

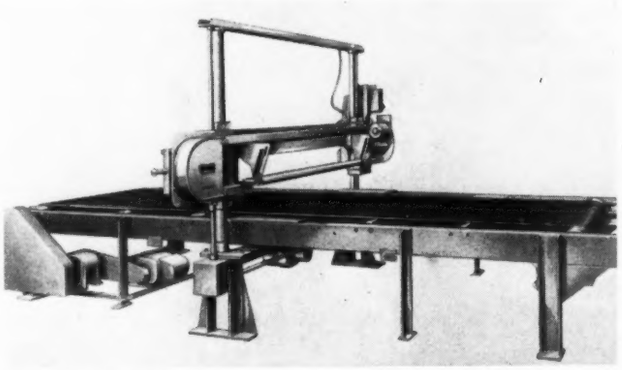
tion which tilts on double trunions from 36 degrees up to 46 degrees down. Table length allows 12" clearance beyond disc for hooked shaped jobs. The disc is fully guarded with 3 hinged guards which may be removed so that full surface of disc can be used. The 6 in. dust chute is built in the base.

For More Information Circle Reader Service Number 297

Machine Uniformly Splits Urethane

A new conveyorized slab cutter, 20 ft. long and 80 in. wide, which takes big, untrimmed blocks and long slabs of urethane foam and automatically levels and splits the blocks into thin sheets and converts the long slabs into roll stock as thin as ⅛ in. is being offered by Falls Engineering and Machine Co.

According to the manufacturer, huge blocks of urethane can be split into three and four inch thicknesses without a "flip up" at the end of the cut.



CONVEYORIZED SLAB CUTTER can split blocks of polyurethane into three and four inch thicknesses without "flip up" at end of cut, according to the manufacturer.

The equipment includes a special poly bar for thick section cutting; a motorized dual spindle blade sharpener; 30 in. vertical travel on cutting head; automatic indexing of the splitting head in 1/64" increments; a compression roll that adjusts horizontally to accommodate a range of thicker cuts and a conveyor belt with a variable speed control of from 25 to 100 ft. per minute when moving into cutting position and twice that rate on return.

For More Information Circle Reader Service Number 298

Massage Unit Uses Unique Installation

A new massaging mechanism, "Vitassage," designed for installation in all types of furniture including thin-line designs, recliners, lounge chairs, chaise

Continued on Page 40

FOR MORE INFORMATION

about New Products, News Briefs or New Literature...

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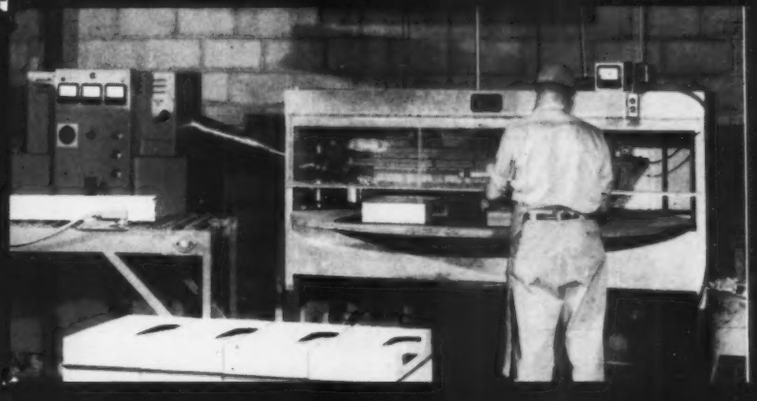
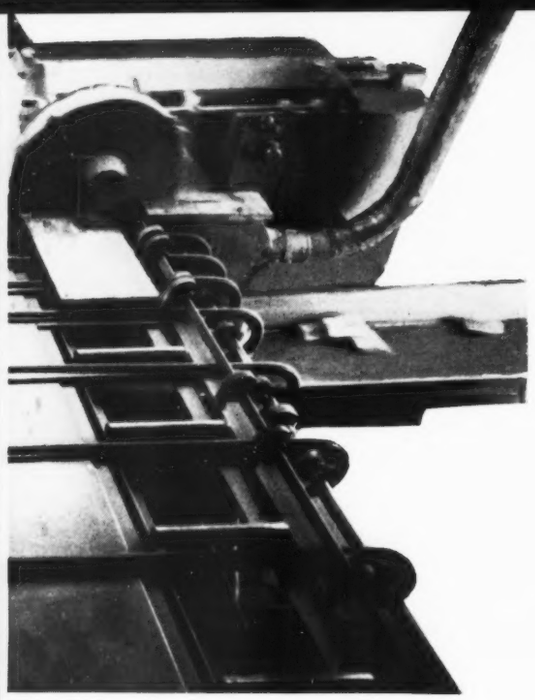
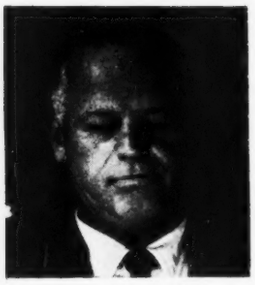
NEW FDM FEATURE!

Furniture Engineering

A technical section for managers, department heads and technicians responsible for production, planning, cost analysis and research, in the furniture, upholstery, and bedding industries.







Furniture Engineering

BY R. L. WHITENER
Vice President
American Furniture Company
Martinsville, Virginia

How We Control Waste of Lumber and Veneer

Here are some proven cost-cutting tips on reducing waste of materials. This article adapted from Mr. Whitener's recent talk before the Production and Cost Division, Southern Furniture Manufacturers Association, at Asheville, N. C.

I. MACHINE ROOM

We believe that the place to begin the control of lumber waste in the machine room is the first place that we handle the lumber. In our plants we cut off before surfacing, then use a finger type surface jointer in the attempt to obtain a flat board. We eliminate a substantial amount of the twist in the boards by this method.

Since we are cutting off first, we tackle the waste problem first at the cut-off saws. We train our men to cut off just as close to the check lines at the end of the board as they can. Here we depend on our foremen to see that the operators are using good judgment. Defects are also cut out with a minimum stock removal.

We set our surface jointers, of course, to take off just as little stock as is necessary to obtain a clean-up cut. At this point our lumber buyer can save us a lot of trouble by seeing to it that our lumber suppliers keep their sawing accurate so that we do not encounter too many "bull ends." Our planing operation is completed by Buss machines in tandem with the surface jointers.

From the planing operation we run our stock over glue jointers with automatic turnovers and return feed. They are set to remove from ⅛ to 3/6 inch. As long as these machines are kept running properly we can use all of the jointed edges for gluing except about 15 per cent—which, because of crooked boards, will have to be re-edged on the straight line rip saws. We believe that we lose a minimum of stock in edging the greatest percentage of our stock on the glue jointers. From our glue jointers our stock is fed through sorting conveyors to the rip saws. Here again we feel that our success in conserving good stock lies in the training of the saw operators and the constant observation of the supervisors. We rip for maximum stock on our core lines, and parallel rip only for moulder stock and special panels which require maximum stability. Our cores are processed through Plycor machines and clamp reels.

At about this point in our machine room we begin to observe the results —either good or bad—of the training and judgment of the men who are sometimes forgotten in the process; that is, the men who make out the bill sheets. The allowances made for machining the stock can very often mean the difference between a good waste percentage or an exorbitant one. The man who makes out the bill sheet must know the route each part will take, and he must know the minimum amount of stock each machine must have to do its job properly. "Safety cushions" inserted at the billing stage can be the most expensive judgment errors in the machine room. Sometimes these errors can be the hardest to detect. The *correct* amount of allowance is most important here, because either too much or too little can be equally costly. Everyone is probably well aware of the truth of our last statement, but do we vary these allowances proportionally as we should with regard to length, width, and thickness? For example, we sometimes overlook the fact that a short panel requires less sizing allowance than a long one of the same width. Everytime we overlook the opportunity to economize at a spot like this it costs us in every piece we make, every run that is made.

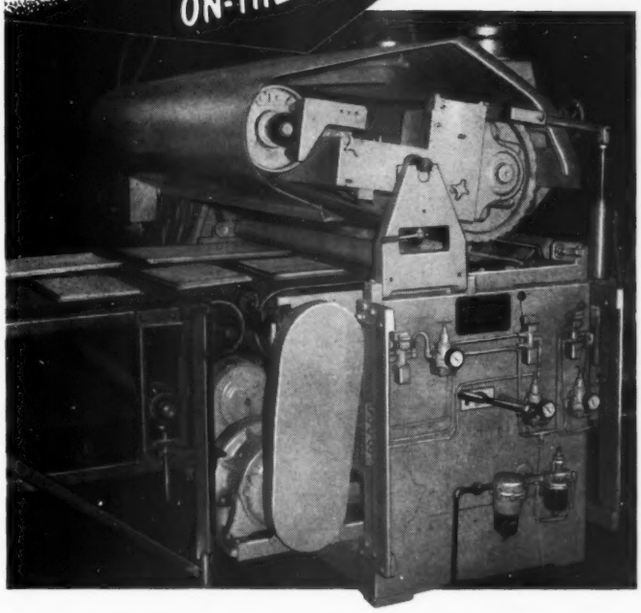
We hold our moulder allowances to ¼ inch width and thickness. Our sizing and trimming allowances are 1 inch, with some exceptions for extreme length or width, on laminated stock from our presses. Re-trim allowances are less, in accordance with sizes. Here, too, we encounter an important operation in waste control —the accuracy of the glue spreader crew. Minimum allowances for machining can be utilized successfully only if the lay-up men hold all components of the panels consistently against their guides. This accuracy must be checked constantly.

At the presses we have found another by-process saving that is important—that of glue consumption. We check daily on consumption at each spreader and compare results, not only day against day in the same plant, but also plant against plant. The veneer allowances for trimming and sizing must be as close to the core allowances as practical in order to eliminate glue waste on the overhangs. Although cross-band veneer may appear relatively cheap, veneer plus 4 glue lines is more expensive.

One other procedure to which we adhere, and which some of you will no doubt dispute, is that of taping the ends of face veneer at the point at which it is to be trimmed. This

Continued on Page 38

ANOTHER "TIMESAVER" ON-THE-JOB!



The H. J. SCHEIRICH CO., INC., Louisville, Ky. uses 2 Model TOP-50 . . .

TIMESAVER SPEEDBELT* SANDERS

*Trade Mark

. . . in conveyorized cabinet door and panel finishing line.

The 2 Timesaver Model TOP 50 "Speedbelt" Sanders are an important and integral part of the H. J. Scheirich Company's new conveyorized production line. By conveyorizing material flow and utilizing the production sanding techniques made possible with "Speedbelt" Sanders, they were able to set-up to produce 800 more panels and doors per shift while using only one-half the finishing materials formerly required.

Scheirich Company and Timesaver engineers developed a special feeding mechanism for the Timesaver "Speedbelts" that enabled feeding and sanding of panels of various thicknesses through one machine without adjusting the machine.

This is only one of the many examples of installations throughout the country where Timesaver Sanders built into production lines are achieving savings in labor and materials while producing the desired top quality finishes. You, too, can enjoy the advantages of wide abrasive belt sanding in your shop at a minimum cost . . . Investigate the application of Timesaver "Speedbelt" Sanders to your sanding and finishing problem.

Write today — send for free literature and prices.

G-8

Pioneers in wide belt sanding for the woodworking industry
TIMESAVER SANDERS
P. O. Box 7446, Robbinsdale Station
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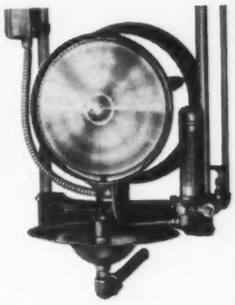
LOW-COST

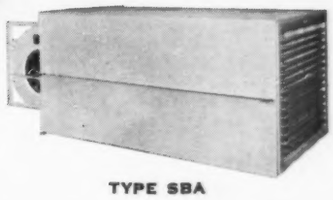
CONTROLLED HUMIDITY

PAYS FOR ITSELF IN EXTRA PRODUCTION SAVINGS

Bahnson UNIT HUMIDIFIERS



TYPE H



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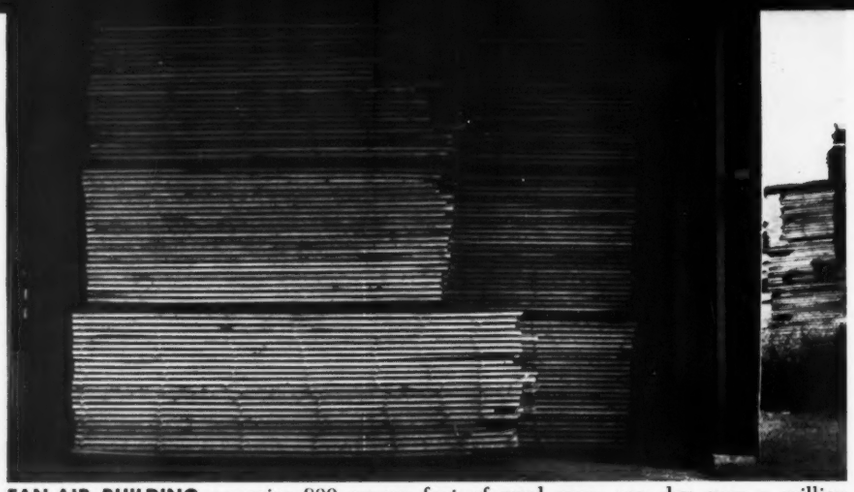
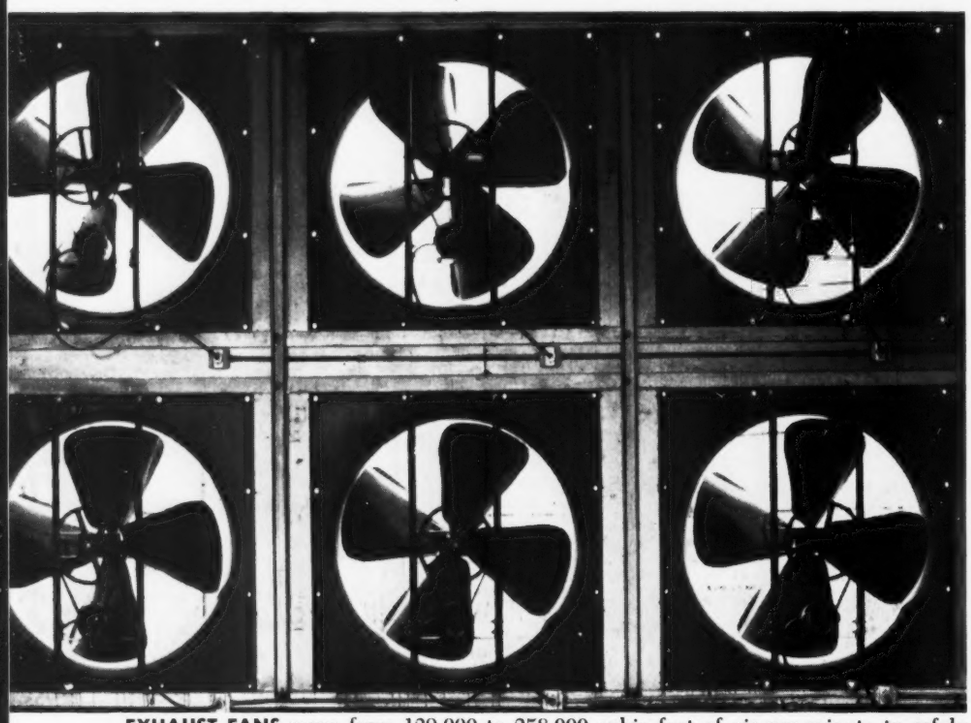
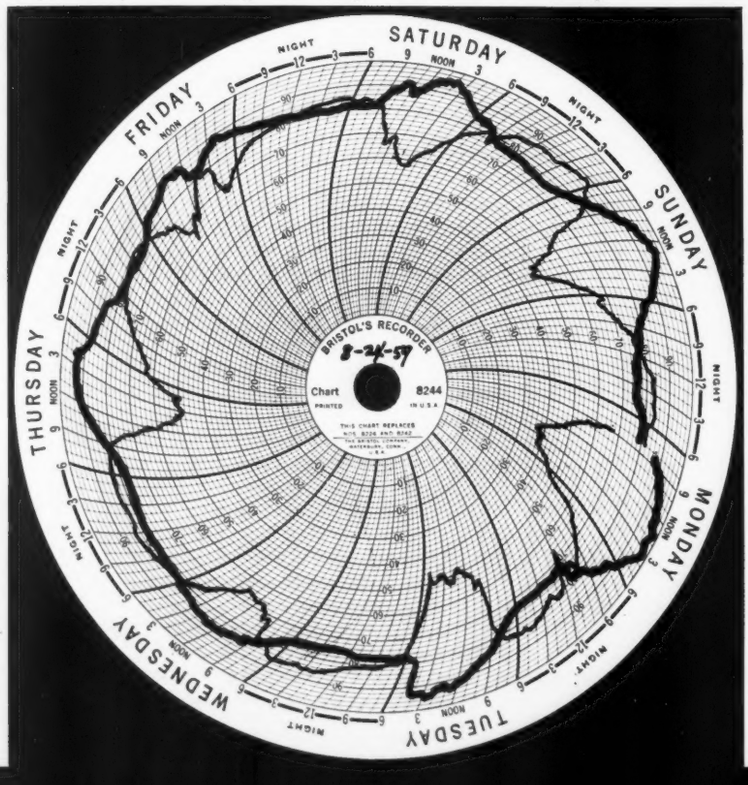


FAN-AIR BUILDING occupies 800 square feet of yard area; can dry over a million board feet of lumber a year, according to the manufacturer.

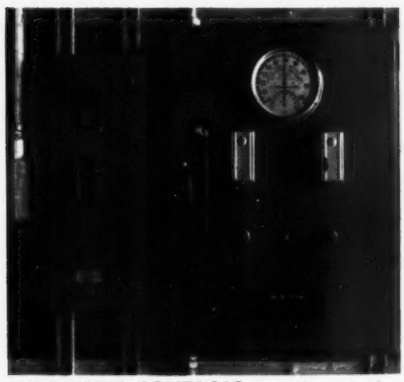


EXHAUST FANS move from 129,000 to 258,000 cubic feet of air per minute to safely air dry green lumber in five to ten days.

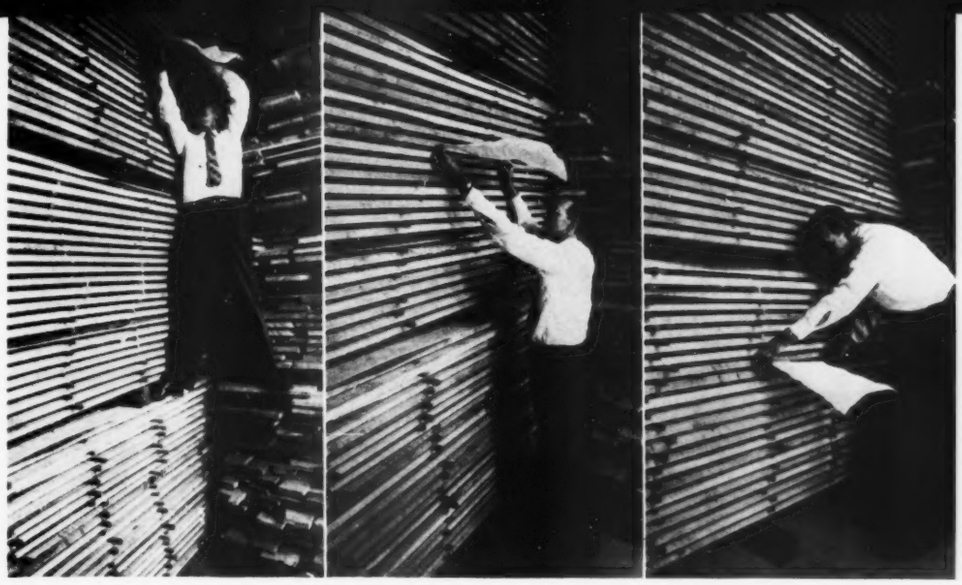
TEMPERATURE HUMIDITY CHART, below, shows how weather conditions vary. Heavy line is temperature, light line, relative humidity.



BACK SIDE of Fan-Air installations at Carlton Smith Industries, Inc., Memphis, Tenn. Equipment is said to quickly pay for itself.



AUTOMATIC CONTROLS permit operator to take advantage of best drying conditions for various species and avoid severe conditions which might harm woods such as oak.



Furniture Engineering

AIR FLOW is demonstrated by Carlton Smith, developer of Fan-Air system. Air foil type baffles cause air to flow over all lumber surfaces and permit uniform drying.

New Way to Speed Air Drying of Hardwoods

By R. A. HELMERS, Editor

Photographs by author

Air dry green hardwoods in just seven days?

Sounds impossible . . . but Carlton Smith Industries, Inc., Memphis, Tennessee manufacturer of glued-up furniture panels, has been doing so for years. Further it is claimed that degrading of hardwood lumber, such as warping, end-checking and staining have been virtually eliminated.

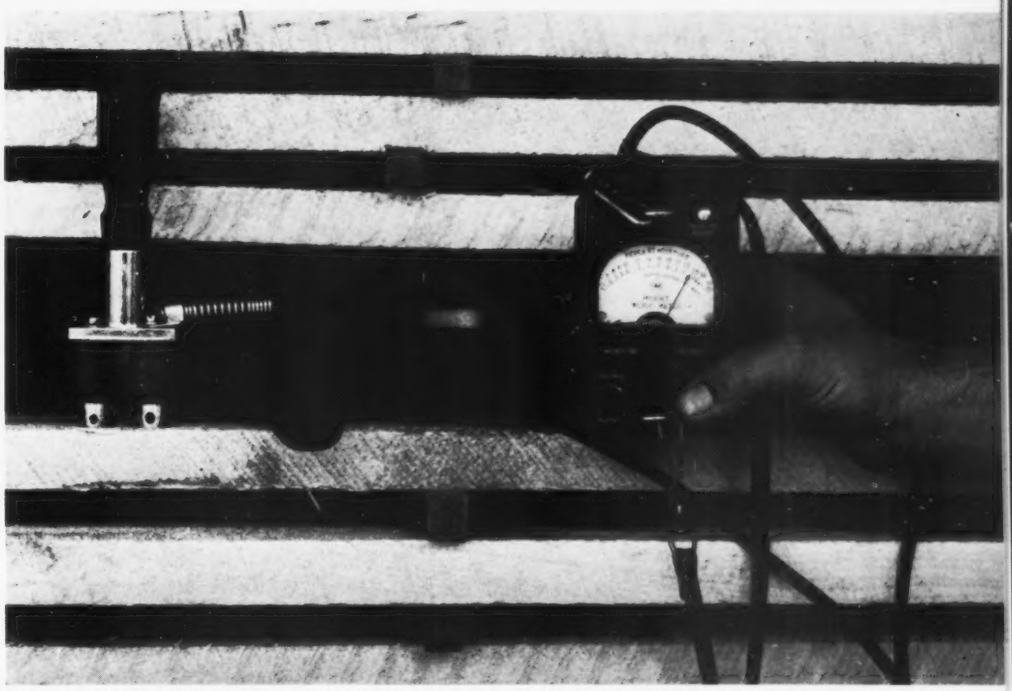
Because this phase of seasoning has been speeded up a smaller lumber inventory and subsequent yard area are required for the company's operations.

As a result of this experience a new company has been formed to market the system of automatically-controlled exhaust fans and baffles. The firm, Fan-Air Systems, Inc., Memphis, Tenn. engineers each installation to the customer's requirements.

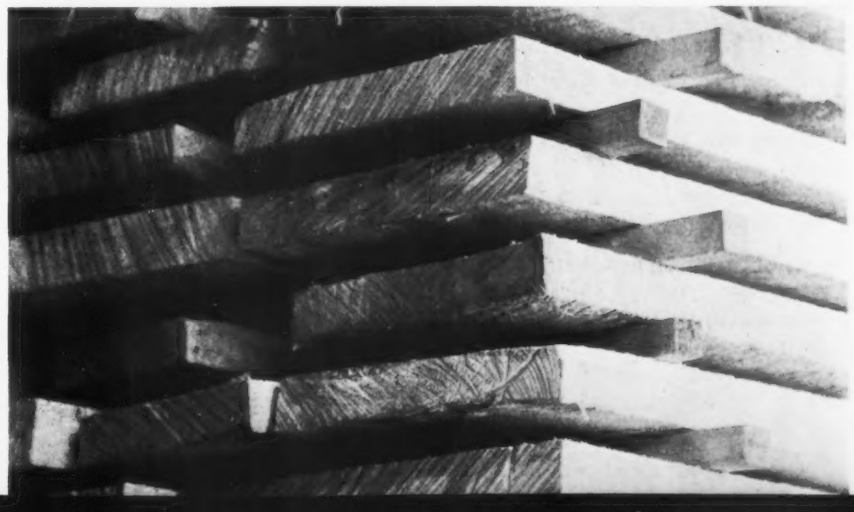
It is common knowledge that the conventional method of air-drying green lumber in open yards accounts for some five percent loss due to various forms of degrade. Even with good yard practices, losses run high. Such species as oak will easily split and case harden during weather periods of high temperature and low humidity.

The Fan-Air System brings these

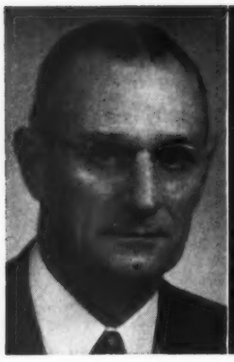
Continued on Page 35



THIS LUMBER WAS GREEN one week before photo was taken; meter now shows 25 percent moisture content. Air drying in yard often takes 90 days or more.



BRIGHT AND CLEAN — Lumber leaves Fan-Air system without stains, twists, warping and no end checks. Degrade is practically nil, claims the manufacturer.



WOOD TECH

Bent Wood for Furniture Parts

A regular monthly feature by **CARL A. RISHELL**
Consulting Wood Technologist, Washington, D. C.

The bending of wood parts in a furniture plant specializing in case goods is not the most unusual operation, but it is one of the more difficult ones. Manufacturers of bent chair frames and other similar operations understand the problems involved and are equipped to handle them.

Other manufacturers, who have only occasional need to use bending procedures, often lack plant equipment and accurate information for doing the job.

Probably there is no simple procedure, but a knowledge of the properties of wood and what happens to it, when being bent, should be of assistance in making the job simpler and less expensive. However, the best advice is to avoid—as far as possible—using bent parts if the design will permit an unbent member to be substituted.

The first thing to understand about bending wood is that a severe bend stresses it, especially on the convex face, to the limit of its strength. The thinner the piece of wood, the easier it can be bent and to a much smaller radius than can a thicker piece. Also, if the bending forces are applied slowly and uniformly, the wood will bend with less danger of breaking.

In bending a piece of wood, the outside or convex face is put in tension; the inside, or concave face, is in compression. So, if the bending is done without restraining these forces, the outer face will do its best to stretch around a relatively large circle, while the inside will compress into a smaller circle.

It is about the same as a fat man using a thin man's belt—something is bound to give, sooner or later! If the belt is strong enough, the man may be injured internally, but his pants will stay up. But, if the belt is weak, another kind of catastrophe will happen. An engineer would dignify such an embarrassing incident by reasoning that the leather belt had been stressed beyond its limit of elasticity!

Wood will stretch less than one per cent of its length, but will compress about 20 per cent. This means that, in bending wood, the outside will maintain the same length, but the inside must grow shorter. The problem of bending wood boils down to using a method that reduces the relative compressive forces of the concave face, or increases the relative strength of the outside face.

There are several methods for accomplishing this, the four principal ones being as follows:

1. *By weakening the back or concave face of the wood.* This frequently is done by saw kerfs across the back. Another frequent method is to reduce the thickness of the piece over the area of curvature. The latter should provide a more uniform bend, but it is hard to accomplish. The former is easier, but it may result in a series of tangents instead of a uniform curve.

2. *By strengthening the face or convex side of the piece.* A satisfactory way to do this is to glue thin, but strong, material to the outside of a weaker species of wood, such as birch or balsa. In this case, the grain of the balsa should be at right angles to the grain of the face piece. The numerous combinations which can be used depend upon, among many other things, the radius of curvature required. Balsa, a very weak wood, was cited as the extreme example; yellow poplar, basswood or aspen will serve for most purposes.

3. A third and, perhaps, the most useful method is to *steam or heat the wood before bending.* Just what happens to the wood during a heating or steaming process is not fully known, even by the brightest "wood-tech boys." Until more is known about what actually happens to wood structure under these conditions, it can only be assumed that the strength ratio between opposite faces of tension and compression has been changed temporarily.

Furthermore, we do not know the optimum conditions for heating and steaming the wood. So, this is a trial and error matter. Some experienced people claim the boiling method is best, others proclaim the use of steam.

Several years ago, the writer watched the procedure at a plant where 1¾-inch by 2½-inch boat frames were being bent. Prior to boiling, the moisture content of the white oak was 12 per cent; after an hour of boiling, the pieces could be bent to a rather sharp curvature with little trouble. It was assumed that boiling had increased the moisture content of the pieces sufficiently to soften them for bending.

To determine the validity of this theory or assumption, several pieces were tested for moisture content before and after boiling. After two hours of boiling, the moisture pick-up was less than four per cent, most of which of course was concentrated on the two faces. The penetration of moisture below the surface was so slight that it is difficult to understand how increased moisture, itself, could have been a material aid in bending.

However, during the boiling, the temperature of the piece was greatly increased throughout its thickness. Whatever the cause, the pieces could be bent with much less breakage than prior to the treatment. From this evidence and other similar experiences, one must conclude that heat is a major factor in bending wood.

It seems probable that if the wood has sufficient natural moisture in it, perhaps over 14 per cent, heat is of vastly more importance than any moisture steaming or boiling can give.

Steaming or boiling is a very practical way of imparting heat to wood

bending stock as either method transmits heat to the wood without drying it. The important thing is that heat should be maintained for as long as possible during the bending procedure.

Despite the importance of maintaining heat during the bending process, it must be recognized that too much haste in applying the bending forces can offset every gain obtainable from the heating.

A slow and uniform application of the bending load is of tremendous import, as in this way only can allowances be made for the highly stressed wood fibers to realign themselves to new positions. These changes cannot be made rapidly; the slower the better. Therefore, use all haste possible in getting the wood from the heating compartment into the bending jig, but after that, *slow down.*

4. The fourth method for obtaining the differential in strength between the compression and tension faces of the wood is to *use an efficient bending strap.* This is the method used in bending the largest ship frames, and is extremely successful when properly done. There have been incidences where breakage has been reduced from 50 per cent to less than 5 per cent by using adequate bending straps.

A properly constructed bending strap is a thin sheet of steel, preferably high-tensile, of the approximate width and length of the piece of wood to be bent. A permanent fitting is attached to one end of the strap and at right angles to its length. The fitting usually is a piece of cast iron riveted to the strap and providing a permanent stop for one end of the wood piece.

A similar stop is attached to the other end of the strap. It, too, can be permanent or rigid for small pieces with easy bends, but all pieces must be of the same length. A better way is to have an adjustable screw on one of the fittings so that the length of the strap can be adjusted for minor differences in lengths of wood pieces to be bent.

This screw attachment also allows for the relaxation of excessive compressive forces which sometimes occur when the bend is made too rapidly, or when the pieces being bent are relatively thick. An excessive compression load is evidenced by a crinkling of the inside face of the bent material.

When such crinkling is noted, the screw is backed off slightly to reduce the compression. However, instead of relaxing end pressure, slowing up the bending will often be sufficient and probably is the best procedure.

There are several variations of bending straps; for exceptionally heavy pieces, a reverse arm is installed which prevents reverse bends. Such refinements usually are unnecessary in furniture manufacture. The important thing is that the bending strap have sufficiently strong end stops to prevent the wood from stretching on the convex side, and force it to compress on its concave side.

I repeat—wood will compress, but not stretch, without breaking, so the secret in successful bending is in preventing the wood stretching. A steaming or boiling process, in conjunction with the straps, is recommended.

The particular species of wood to be bent is important. It is general knowledge that most hardwood species bend better than the softwoods, but it is a matter of degree; all species can be bent within proper limitations. Furthermore, even within the hardwood species that are considered best for bending, some pieces will bend better than others.

Fast-grown hardwoods usually are better bending woods than old, virgin growth stock. The reason is that, with second and open-grown hardwoods, the heavy dense summer wood usually is more abundant than the light frothy springwood. For example, compare a piece of oak having six to nine growth rings per inch, with an old-growth piece that has 25 or more rings per inch. You will note that the former has a preponderance of heavy, close-grown wood in each ring.

Generally speaking, the heavier and harder the wood within a given species, the better it will bend. High density is a necessary property for the best bending material. Slow-growth, mild-textured oak that is best for usual purposes is the least suited for bending.

Recently, glued laminated wood products have become important in furniture manufacture. This has raised the question of steam-bending laminated pieces. The answer depends on the kind of glue used in the assembly. A non-waterproof glue will not stand this process, as heating or steaming, or a combination of these, will destroy the glue line. This applies to urea glues as well as to the older types.

However, if a fully waterproof glue,

Continued on Page 42

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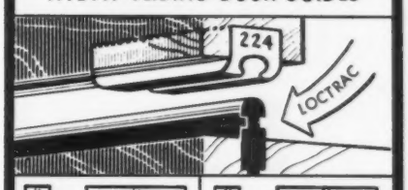

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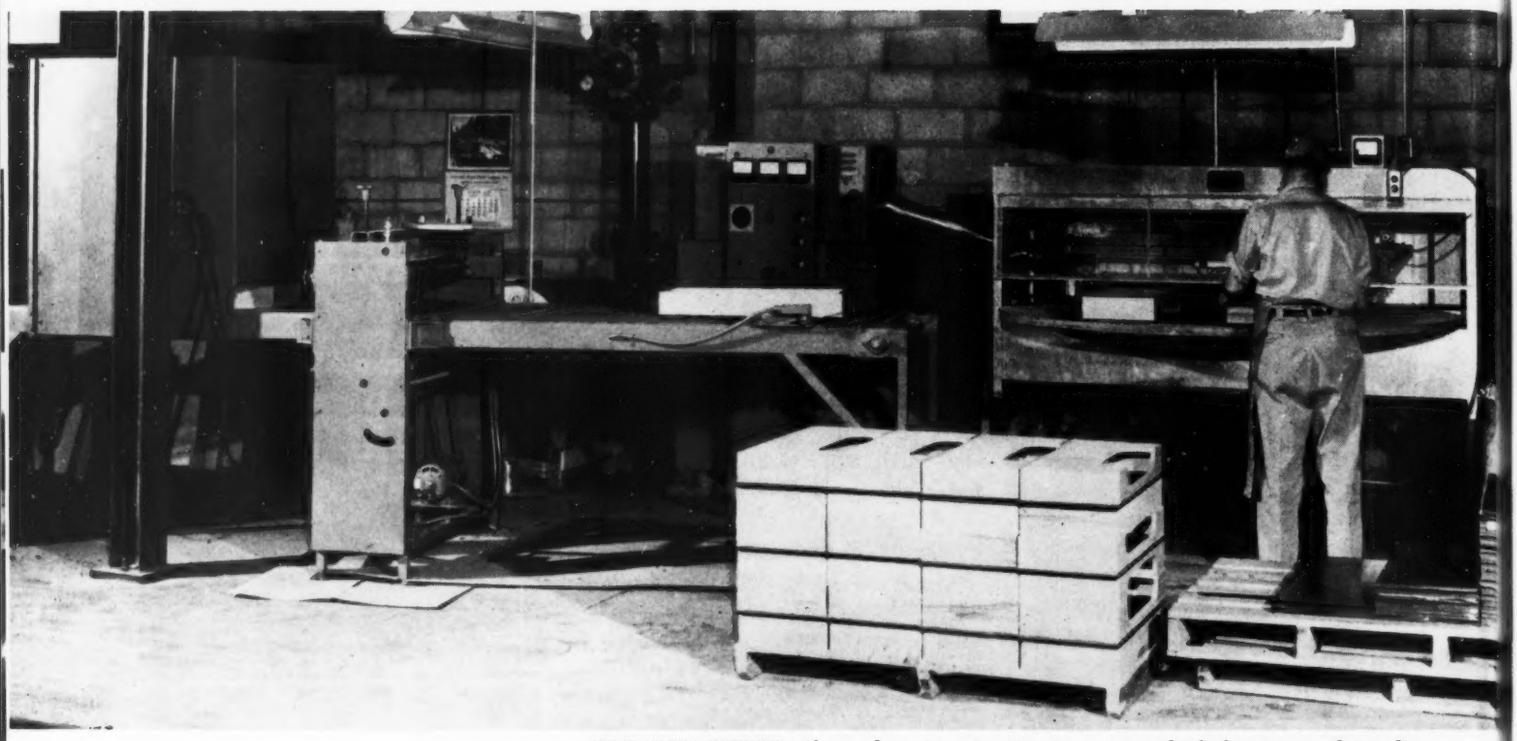
Furniture Engineering

Automatic Assembly Gluing Speeds Production



ONE MAN GLUING—Shown here in operation is one man high frequency gluing line. Far left is automatic hopper which feeds glue spreader on conveyor line. Operator is joining glued frames to panels for curing in Roto-Gluer.

ROTO-GLUER IN USE. Top, hardboard panel is laid up on hardwood framing members. Middle, turntable swings work into Roto-Gluer for curing. Bottom, workman removes glued-up assembly from jig.

A one-man high frequency gluing line which is claimed to speed production over clamp-type gluing has been developed by Union Tool Corp. The conveyorized line consists of three units: an automatic hopper feed, a top-coating glue spreader, and a double station Roto-Gluer bonding press for high frequency curing.

Furniture parts are hopper fed to a conveyor which carries them through a glue spreader which applies adhesive to the top side. A second conveyor feeds coated pieces to the operator, automatically stopping when stock reaches end of this line.

Use of the automatic hopper feed and cut-off switch eliminates the need for a man to feed the glue spreader and pass parts to press operator. The Roto-Gluer, also a product of Union Tool, features a jigged turntable on which operator lays up stock while opposite side is being cured.

At the press of a button the table rotates and moves assembly under platen for curing cycle. When the platen is lowered, preset air pressure is applied to the panel, sending high frequency power from the generator to the platen. A timer on the generator controls curing time and the platen rises automatically when the power shuts off. Operator off-bears and reloads opposite side while one assembly is curing.

Turntable is powered by an electrically-controlled air cylinder with hydro-check to assure fast, smooth operation. The platen is raised and lowered by pressure from six air bags. A one-inch air line supplies 80 lbs. line pressure to force 51,000 lbs. of pressure against the platen. Maximum air bag stroke is one inch.

The glue spreader comes in standard widths of 26, 38 and 50 inches. The Roto-Gluer bonds panels up to 36 by 48 inches. ■

Air Drying Hardwoods

Continued from Page 31

natural elements under control. It works like this:

An open-end building of 800 square feet, with a capacity of 18M to 22M board feet per load, is fitted with a battery of exhaust fans. These pull from 129,000 to 258,000 cubic feet of air per minute through the lumber. No heating is used. Flexible air foil baffles, located at sides and top of the building, direct air flow in uniform velocity over each board's surface.

Automatic controls allow the fans to run only when outside air is suitable for drying.

Drying Results of Various Species—

Oven tests taken of samples before and after seven days Fan-Air treatment

Tests by: Nickey Bros., Inc., Memphis, Tenn.

Thickness & Specie	Moisture Content Green	After 7 Days
4/4 Poplar	95.0%	19.4%
4/4 Elm	72.5%	26.2%
4/4 Hackberry	45.2%	29.4%
5/4 Cottonwood	69.5%	23.5%
5/4 Sap Gum	82.5%	28.7%
4/4 Mahogany	81.7%	40.4%

For instance, high and low humidistats are set to stop fans at high relative humidity and to start them again when relative humidity returns to a more desirable condition.

Likewise, low limit controls shut off the fans when air becomes too dry for seasoning such species as green oak.

However, the fans do operate during the early morning hours. According to Carlton Smith, developer of the system, little or no drying is accomplished during this time, but lumber is conditioned at this time. Surface stresses are relieved similar to steaming of lumber in dry kilns. This conditioning permits safe, rapid drying to be resumed during the daylight hours.

Carlton Smith Industries, Inc. processes all its green lumber through the Fan-Air System. Stock is usually ready for kiln drying in seven to ten days. Tests run by this manufacturer and Nickey Brothers, Inc., lumber fabricator who recently installed a Fan-Air System include several species, both lumber and squares. Tables of typical drying records are published herewith.

A single unit, designed to air dry approximately one million board feet of 4/4 lumber a year consumes from 4½ to six motor horsepower. Complete controls and equipment are furnished with the unit.

Controlled circulation systems of this type may well revolutionize lumber seasoning practices for furniture manufacturers and other wood users . . . with resultant savings in raw material dollars. ■

Drying Record of Green Lumber Sample

Specie: Gum; Dimensions: 1⅛ x 10⅛ x 43⅞
Tests by: Nickey Bros., Inc., Memphis, Tenn.

Date	Time	Weight Lbs. Oz.	Remarks	Temp.	Humidity
8/4/59	10:00 AM	19 *2*	110% MC	92 F	52%
8/4/59	8:00 PM	16		90 F	56%
8/5/59	7:00 AM	14 *12*		86 F	72%
8/5/59	11:45 AM	13 *12*		96 F	46%
8/5/59	4:45 PM	13 *1*		96 F	42%
8/6/59	7:00 AM	12 *4*		86 F	74%
8/6/59	11:45 AM	12 *1*	32.5% MC	98 F	50%
8/6/59	4:45 PM	11 *15*	RAIN	78 F	84%
8/7/59	7:00 AM	11 *15*		82 F	84%
8/7/59	11:45 AM	11 *12*		90 F	70%
8/7/59	4:45 PM	11 *13*		92 F	54%
8/8/59	7:00 AM	11 *5*		74 F	80%
8/8/59	11:45 AM	11 *3*	23% MC	84 F	56%
8/10/59	7:00 AM	11 *1*		72 F	84%
8/10/59	11:45 AM	10 *14*		86 F	44%
8/10/59	4:45 PM	10 *13*		87 F	46%
8/11/59	7:00 AM	10 *13*		76 F	83%
8/11/59	10:00 AM	10 *12*	18% MC	86 F	45%

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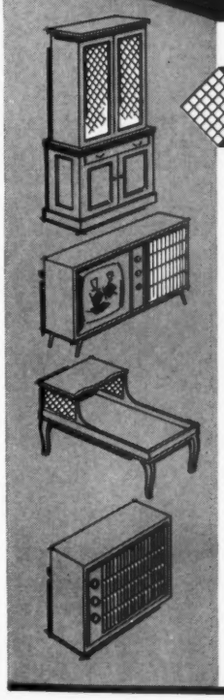

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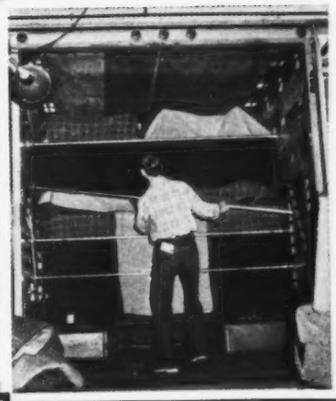

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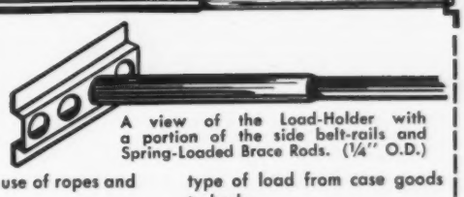

A view of the Load-Holder with a portion of the side belt-rails and Spring-Loaded Brace Rods. (¼" O.D.)

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He Believes In the Humble Approach to Design

Design theories of the designer for Valley Upholstery Corporation and how he carries them out

MODERN WING CHAIR, top, is from Valley's 1959 Young Suburbia collection. Details are essentially those of Louis XVI, but wood cap on arm is modern in feeling —also solves problem of wear at this point. Designed by MacGregor.

CAPTAIN'S CHAIR, bottom, designed by MacGregor for Valley's 1959 World of Modern. In waxed finish solid walnut, chair has loose foam seat cushion supported by rubber webbing. Photos courtesy Valley Upholstery Corp.

Norman F. MacGregor was born in New York City. His family moved to Canada however, when he was of pre-school age so he was educated entirely in Canada. He graduated from the McGill University School of Architecture with the degree of Bachelor of Architecture so that he brings an architect's training and thinking to his furniture design. However, he has always been more interested in the arts allied to architecture than in the mother profession and he quickly associated himself with the furniture field. For a short period after he graduated he was in a partnership with a group of his classmates designing custom furniture and wrought iron work in Montreal.

However, he soon left to return to New York. For a short while he was assistant editor to Scribner's publication "Architecture." When this publication merged with "Architectural Forum," he joined the office of Walter Dorwin Teague. Here he was placed in charge of Mr. Teague's custom furniture and interiors. In this capacity he did much work in the residences of Edsel Ford in Dearborn, Michigan, and Hobe Sound, Florida, as well as Mr. Ford's yacht. During the New York World's Fair he was in charge of Mr. Teague's work on the state interiors of the United States Government Building and the Executive Lounges of the Ford, Consolidated Edison and United States Steel Buildings. After the fair was completed, he joined Valley Upholstery Corporation whom he has served with distinction ever since except for time out to serve four years with the U. S. Navy Construction Battalions during World War II.

This year when he presented his new line in May, he completed the twentieth year of his service with

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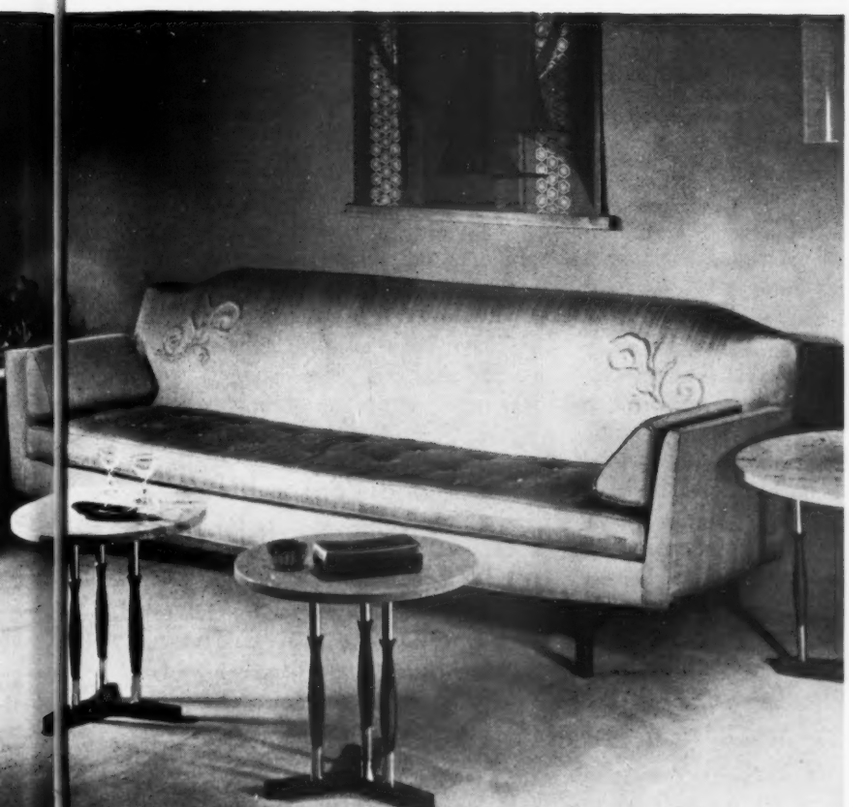
NORMAN MACGREGOR, designer for Valley Upholstery Corporation, New York. In addition to creating furniture designs for the company, he directs the decoration of Valley's showrooms.



MEXICAN SLING CHAIRS are upholstered in fabric over foam. Characteristic of a number of MacGregor's new designs, stretchers and running bases are near the floor; pierced wood is seen in table and chair stretchers.

TRAPUNTO MOTIF gives touch of elegance to sofa, above left, from Valley's 1959 World of Modern collection. Upholstered in pure heavy silk in moonlight grey, it features single buttoned loose seat cushion.

PRIZE PIECE from Valley's current line is this divided sofa, bottom left. It may be used separately or joined to form seating unit over 12 feet long. Loose seat cushions are Dacron fiberfill over foam core. Benches are wax-finished walnut with foam cushions.

Approach to Design

Continued from Page 36

Valley Upholstery Corporation. He looks forward to many more years of designing and detailing Valley's furniture and showrooms and of guiding them in the ever changing field of Modern Design.

Here, in his own words, is Mr. MacGregor's attitude toward design:

"Whenever I am asked about my attitude toward design, I feel impelled to acknowledge my debt to Ramsay Traquair, head of the Architectural School at McGill University, at the time I attended it. He was a great philosopher with a keen analytical mind and his influence has always been strong upon me. In his first lecture he assured us that none of us was going to create a new architectural style, that no one ever, ever would!

"Actually all design is a living growing thing. It is founded upon and has its roots strongly imbedded in the past. The art of each period is an expression of the taste and the needs of the people and the materials available. Art and architecture change as the civilization rises or declines.

"This in capsule form has always been my attitude toward design. It is a humble approach. I never forget that design must have its roots in the past. I try always to avoid extremes with no other right to exist than a striving to be different. I am constantly asked by the press, "Why did you do this or that?" There is no answer. I did it because I felt that it was right, that it would answer a need.

"I have always felt that reproduction furniture is somehow morally wrong. But it has been my belief for many years that, in my lifetime, reproduction furniture would become so influenced by contemporary life and modern furniture would so accurately reflect contemporary life with its heritage of the past that the two would merge into one real living style—straight-forward and free from affectations. It is toward this end that I have always worked.

"Ours is a restless and everchanging period. It can be likened to no other in its tremendous surge of scientific and technological advances. The designer is constantly flooded with vast new resources in materials and techniques. My mind has always been open to these and the vast variety of materials available has been responsible for the many phases in my design work. I like experimentation and I like doing new things with new materials.

"On the other side of the ledger, however, I believe that when the homeowner purchases furniture, he or she has the right to expect that the furniture will last and remain in good taste for many years. This has been, in my opinion, the basic secret of survival of reproduction furniture. Therefore, it is my constant aim to supply a conservative approach to the design field so that my furniture may be purchased with the assurance that it is good for today, tomorrow and for many years to come.

"I cannot let an opportunity of this kind pass however, without acknowledging the tremendous influence on my work and on the upholstered furniture industry as a whole that has been made by all of the foam products. They have literally changed not only the interior construction but the face of furniture as well. This sounds like a paid plug. But it is not, it is from the heart. In my work I am finding that all of the foam products have a use and an importance in gaining new effects. Valley Upholstery Corporation for whom I design was among the first to change to a one hundred per cent use of foam products and I believe that we have experimented with and used practically every type. Through its use we have been able to achieve maximum sleekness and styling with maximum comfort as well." ■

Lumber and Veneer Waste

Continued from Page 28

is a case of material loss compared with extra labor expended. Our experience has been that it pays us to tape brittle or fancy faces in order that we may minimize loss and repairs resulting from chipping at the saws —even though we use the best designed carbide-tipped saws we know how to obtain. We might suggest to anyone interested that they investigate the new thin tapes being imported from Germany. We are running tests, and believe that these products may have good potentials.

We will not touch at length on savings of lumber and veneer in the finish machine room, however, there is one contributor to waste that it might be well to emphasize here. This is the damage to stock in mishandling and moving. This is probably our most costly waste factor, and one of the most unnecessary ones. Damage is experienced in many ways —from sawdust and chips between stacked panels, from trucks colliding, from improper stacking and subsequent collapsing or dumping on the floor. We feel that our best approach

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is one of educating all our personnel to help avoid these moving and storage occurances. We work on this one every day.

II. SANDING ROOM

As you know, it is mighty hard to get a good sanding job on a panel that is wedge-shaped. This is a problem we probably all face. If our panels are not of uniform thickness, we can hardly get uniform machine sanding. Cores, veneer uniformity, press techniques all enter into the picture here. Cut-through faces don't always mean faulty machines or careless operators are responsible. We have found that we get better results by varying our procedures in the sanding room according to the nature of the stock. The selection of the right sandpaper in regard to abrasive type and grit, type and character of backing, proper speeds for the job is a key factor. The proper selection and control of abrasive belts, etc., not only produces better work and less stock waste, but also reduces sandpaper costs. We have learned that a check on comparable sanding jobs in respective plants is very revealing at times. As most of you have no doubt found, sandpaper costs can be staggering if allowed to get out of control. We keep perpetual record of belt consumption in all plants, and compare one plant against the others, as well as past performances in the same plant, in order to determine relative costs. This gives us an insight into the efficiencies of the sanding rooms and helps to point out waste in paper.

We attempt to use the most applicable machine for each job, naturally. We invite suggestions from the outside with regard to new machines, new paper applications, and new procedures.

Again, the training of the operator is critical here. A belt sanding and polishing machine operator must know the degree of sanding required, and know how to obtain it efficiently. It is our belief that the quality of our finish is largely dependent on the quality of our sanding. We know that we will be in trouble in the finishing room if the quality of our sanding is not rigidly inspected before and after assembly. We do some "extra" operations in conjunction with our sanding operations. Filling of open splice lines, defects, etc., before final sanding is sometimes necessary, as on special black or white finishes. Our experience has been that it is less expensive to do it in the sanding room than in the finishing or rub room. We feel that "preventive" treatment here is valuable.

We have had very good success with the mould sander in our plants. By use of the proper forms and sandpaper, we have reduced our culls due to shape distortion—especially on delicate shapes and sharp edges.

We believe that a statement made by the president of our company would bear repeating here. "A furniture factory can not be run by just pressing a button. We must depend on well trained supervisors to see that the job runs smoothly."

By the same token, we know that waste cannot be controlled by just pushing a button—our supervisors must constantly see that the job is done properly. ■

Acrylic Fibers

Continued from Page 21

sistance to moths and mildew, together with its non-allergenic qualities. In 100% Acrilan fabrics, these properties are at maximum performance.

Only those fabrics of Acrilan which meet the above-specified standards qualify for The Chemstrand Corporation's label identifying them as upholstery fabrics of Acrilan and stating "An Exclusive Quality Fabric."

FABRICS OF ACRILAN include plaid, top, by Holyoke Fabrics, Inc., which contains 69% Acrilan plus cotton and rayon; and matellasse, bottom, by Classic Weaving Corp., containing 52% Acrilan plus cotton.

Manufacturers using upholstery fabrics of Acrilan are:

Century Furniture Co., Franklin Furniture Co., Globe Furniture Co., Heritage Furniture, Inc., Hollatz Brothers, Inc., Jamestown Lounge, Martin & Brattrud, Inc., The Peterson Art Furniture Co., Shearman Brothers, Inc., Furniture by Tomlinson, Valley Upholstery Corp.

Weavers are:

Classic Weaving Corp., Holyoke Fabrics, Inc.

Technical bulletins describing general as well as single filament properties of Acrilan are available from the fiber manufacturer. ■

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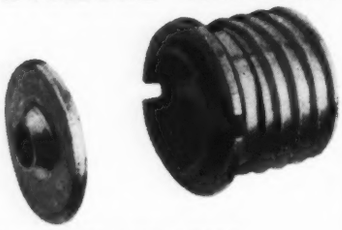

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Cont. from Page 26

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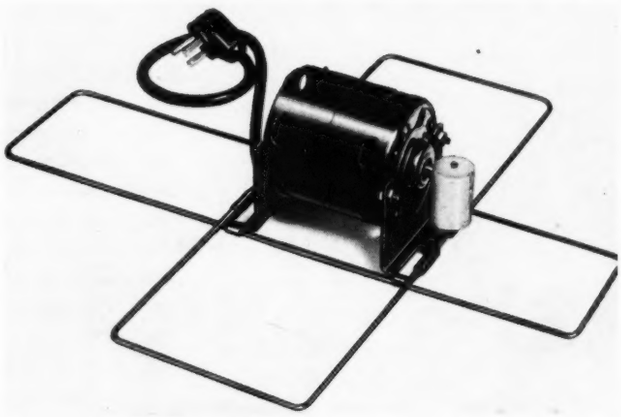

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New Literature

CLOSED-END "POP" RIVET, pressure tight up to 500 lb. psi, is featured in an illustrated flyer issued by the "POP" Rivet Division of United Shoe Machinery Corporation. The flyer gives dimensions of each of the three diameter sizes, 1/8, 5/32 and 3/16 inch, as well as grip ranges, ultimate tensile and shear strengths and a table of required jaws and nosepieces for setting the rivets with standard "POP" Rivet tools. The flyer also shows various hand and power tools available.

For More Information Circle Reader Service Number 300

REYNOFOAM, a polyether or polyester urethane foam, is featured in a technical bulletin issued by Reynolds Chemical Products Co. The urethane is available in a wide range of formulations and densities and can be tailored to the customer's specifications. The bulletin lists the chemical resistance of Reynofoam and gives resin and foam specifications for rigid, semi-rigid and flexible types of foam.

For More Information Circle Reader Service Number 301

Basic-Witz Success

Continued from Page 13

expansion of physical facilities
4. Fully integrated plants
5. Finishes a specialty
6. Design originators, not copiers
7. Style variety
8. Medium price-range

Calling Basic-Witz the "Buick" and the "Pontiac" of the furniture industry, Bonfoey declares his market target is the middle consumer looking for a price tag not too high and not too low. He thinks Basic-Witz has found the Golden Mean—and the five million board feet of lumber carried in the company yards, plus the multi-million dollar figures computed annually, indicate a validity to the goal.

An example of the planning and the accelerated pace set by President Bonfoey is the company's five-year modernization and expansion program begun in 1954 and completed in a record three and a half years. Last summer the extensive addition to the Staunton plant was finished, at over $200,000. In 1955, an investment of $750,000 had been made to the Staunton operation. A new dust collection system costing $100,000 has been installed there. In April 1959 new electric banding equipment was put into use.

The Waynesboro plant received a newly conveyorized chair assembly in June 1959. Several years ago a $250,000 improvement was inaugurated at Waynesboro, including installation of a new conveyor system. (Other equipment is being constantly added at both plants.)

The plants are completely integrated, starting with the raw lumber and ending with completed suites. Basic-Witz manufactures its own core stock, its own dimension stock, and does its own veneering. Lumber arrives by truck and railroad, with poplar core stock or solid parts coming from local suppliers. Distant suppliers furnish ash, mahogany, walnut, pecan and cherry.

During finishing, by a completely conveyorized operation, a switch-track system switches the furniture from a moving conveyor to an oven with controlled temperature arrangement. Here, each piece stays for a minimum of 24 hours under heat, to help eliminate the possibility of shrinkage. "We pride ourselves on our finish," says the president. Every piece is either hand-rubbed or machine-rubbed.

Along with progressive production methods and machinery, the company engages in design research to determine what the consumer wants and what the dealer wants. Research is done in depth.

Bonfoey gives an example. "We found that many of our retailers were encountering space problems—floor and storage—and there was a crying need for reducing merchandise quantities at local stores, yet retaining models and flexibility. The 'Assembly' collection was the result, with one basic dresser size having seven different top sizes. The base piece can be assembled into almost any type of chest or dresser—single, double, triple—that almost any woman desires, or that will fit almost any room.

"Another feature incorporated into 'Assembly,' as the outcome of research, was the soap-and-water concept for cleaning—an attractive promotional and selling device for the dealer. 'Assembly' is all-plastic."

Emphasizing that "our dealers look to us to introduce fresh designs," Basic-Witz employs three designers: Sanford Wallack of Chevy Chase, Md., who does most of the firm's Modern and Contemporary; Cedric Erroll Millspaugh of Southern Pines, N. C., responsible for some Contemporary; and Bernard Bruening from Swoope, Va., contributing French and Italian Provincial.

The eventful "Debonaire" collection, introduced in 1956, was conceived in the spring of 1955 when Bonfoey and Wallack were flying over Detroit en route from Canada, and saw below them thousands of two-tone automobiles being readied to replace the traditional monotones. "If the auto industry can do it, the furniture industry can too," declared Wallack—and designed the painted top-drawer collection, which had coral, aqua or black on a grey or madeira base. In 20 months "Debonaire" sold over $7 million retail. It represented the company's debut—and a rousing one—into the field of correlated furniture.

In 1954 the "Experimental" group had dared an early introduction of white plastic combined with wood.

At the October 1958 market in High Point, "Drama" launched a happy Contemporary combination of walnut with acacia burl inlay, and natural oil finish. During the same market the Basic-Witz space sported a three-way bunk—, trundle—, twin-bed in Contemporary, described as the first of its kind in the industry.

"Hidden Quality That Spells True Value" is the company slogan, with the picture of a violin. Implementing it are expansive advertising and public relations programs, and stunt innovations. Basic-Witz, for example, originated a Furniturama in 1953 that covered 14,000 miles on a cross-country tour. Several years ago it participated in the initial "Young Family" package, which represented eight manufacturers then and was put together by Miss Frederika Fox. Today the firm makes an estimated 60 per cent or more of the case goods for the package, which is a joint effort by Basic-Witz, Craft Associates, Martinsville Novelty, and Modern Upholstered Chair.

Distribution takes place in all of the United States, in Canada, Cuba, the West Indies, and some Middle East countries.

A complete and detailed cost system is utilized. "We always know exactly where we stand on every piece of furniture that comes through the factories," states Bonfoey. The job-order cost system, as presented in the standard manual of the Southern Furniture Manufacturers' Association, is fully integrated with the firm's accounting system. Nucleus for the

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WINTER FURNITURE MARKET Los Angeles Home Furnishings Mart Los Angeles, California	January 17-22
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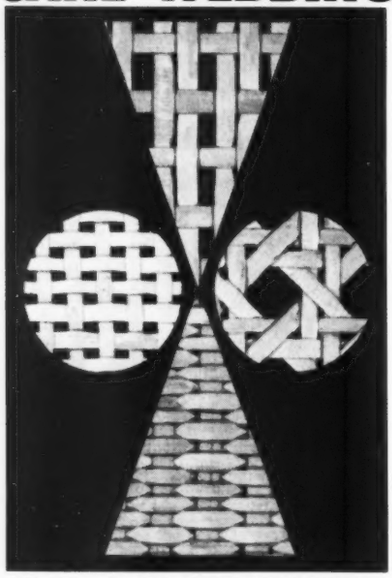

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Basic-Witz Success

Continued from preceding page

present scheme was laid out in 1953 by Ernst and Ernst Management Service. Previously Basic-Witz had had a cost system but it was not tied in with the general ledger.

As a part of Basic-Witz' expansion program, Mr. B. L. Copeland, a former National Furniture Merchandise Executive for Sears has been named Vice President in charge of Merchandising and Sales. Prior to his appointment with Basic-Witz he was General Sales Manager for all of Sears retail and mail order outlets, and was also the Sears National Buyer of case goods and several other lines.

Other leaders in the organization include: Kenneth E. Deal, vice-president in charge of production; E. A. Dudley, Secretary and Sales Manager, and Waller C. Lescure, Treas.

More than any single person today, Bonfoey is responsible for this growing Virginia giant. A native of Illinois, he trained as an executive in the family drug and cosmetics business at the Monroe Chemical Company, Quincy, Illinois, then joined Basic-Witz in executive capacity in 1947. After the death of Charles Witz in 1950, he took over the reins.

With faith in the furniture industry and in the future of American business, Bonfoey envisions many bright years ahead. ■

Bent Wood

Continued from Page 33

such as the phenolics, resorcinols or their combinations are used, the laminated asemblies can be bent as well as solid wood. Any fully waterproof, heat-resistant adhesive should perform well. The best procedure usually is to bend the laminated material at the same time of setting the glue line.

Outdoor furniture, in which glued-laminated bent parts are used, also requires fully waterproof glues. In addition it may be desirable to treat non-decay-resistant species with preservative chemicals.

Such wood members can be preservatively treated in such way that they can be glued after treating, then bent to shape after gluing. This, of course, requires special procedure which, though not too intricate, does require expert advice and precise follow-through in the procedure. ■

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INDEX TO ADVERTISERS

The Airthane Corporation	Cover III
American Walnut Manufacturers' Association	9
The Bahnson Company	29
Blocksom & Company	17
Cargo Stabilizing Devices	35
Carr Fastener Co., Div. of United-Carr Fastener Corp.	Cover II
Chicago Foam Products Corp.	23
Designer Displaycase	40
Detroit Stamping Company	25
Duo-Fast	16
Fastener Corporation	16
Federal Industries, a Textron Company	Cover IV
Glass Laboratories, Inc.	39
Hardware Designers, Inc.	33
Johnson Products Co.	42
Klise Manufacturing Co.	24
Lyon Furniture Mercantile Agency	41
Mearl Corporation	33
National Cotton Batting Institute	3
National Lock Co.	8
Pike Lumber Co., Inc.	24
Selby Furniture Hardware Co.	40
Senco Products, Inc.	10
The Seng Company	38
F. P. Smith Wire & Iron Works	35
Soderhman Machine Mfg. Co.	7
M. N. Thackaberry, Inc.	26
Tichnor Brothers, Inc.	40
Timesaver Sanders	29
E. W. Twitchell, Inc.	24
Victor Supply Co.	18
Victor Wood Products	23, 25
Wilkenson Manufacturing Co.	20
F. P. Woll & Co.	19

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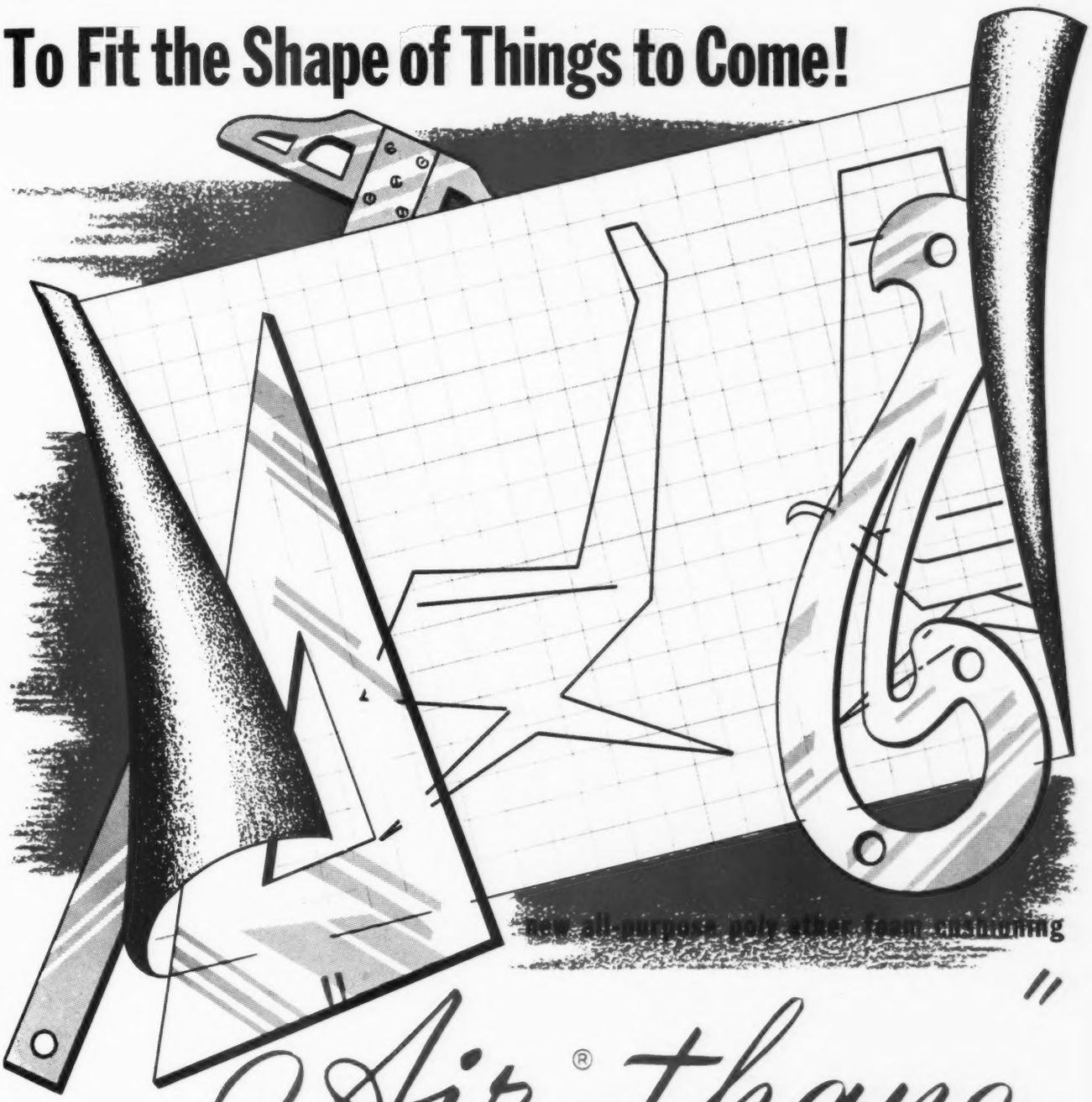

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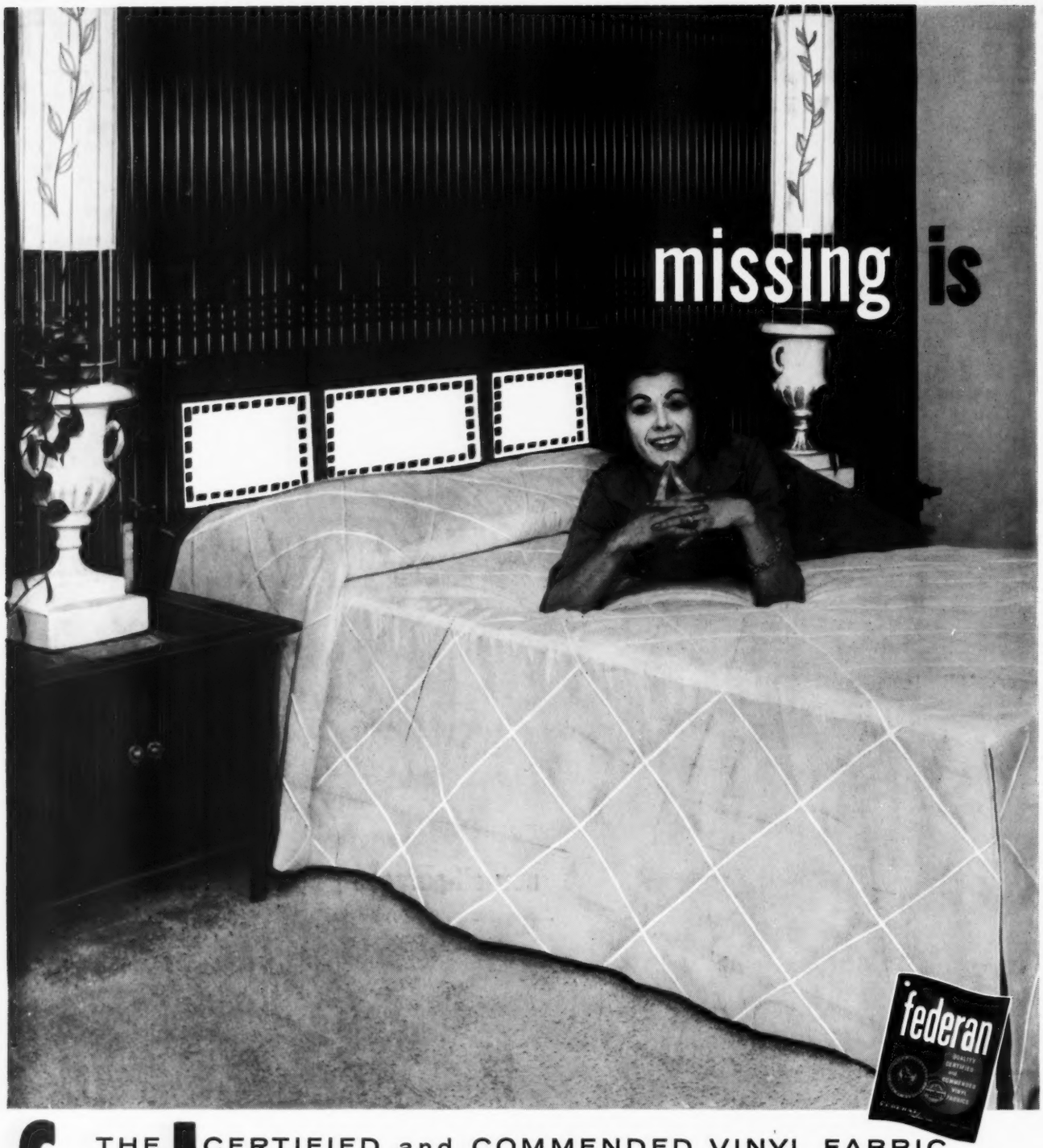

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